

**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**

March 31, 2017

Or

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

Commission file number: 001-16209



ARCH CAPITAL GROUP LTD.

(Exact name of registrant as specified in its charter)

Bermuda

(State or other jurisdiction of incorporation or organization)

Not applicable

(I.R.S. Employer Identification No.)

Waterloo House, Ground Floor

100 Pitts Bay Road, Pembroke HM 08, Bermuda

(Address of principal executive offices)

(441) 278-9250

(Registrant's telephone number, including area code)

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting 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 ☐

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

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. ☐

As of May 1, 2017, there were 123,069,706 common shares, \$0.0033 par value per share, of the registrant outstanding.

ARCH CAPITAL GROUP LTD.**INDEX TO FORM 10-Q**

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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 release 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 release 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 release and in our periodic reports filed with the Securities and Exchange Commission (the “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;
- the integration of United Guaranty and any other businesses 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, foreign currency exchange rates, prevailing credit terms and the depth and duration of a recession) and conditions specific to the reinsurance and insurance markets (including the length and magnitude of the current “soft” market) in which we operate;
- competition, including increased competition, on the basis of pricing, capacity (including alternative forms 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 of key personnel;
- 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, contingencies and litigation, and any determination to use the deposit method of accounting, which for a relatively new insurance and reinsurance company, like our company, are even more difficult to make than those made in a mature company since relatively limited historical information has been reported to us through March 31, 2017 ;
- 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 and reinsurance subsidiaries;
- severity and/or frequency of losses;
- claims for natural or man-made catastrophic events in our insurance or reinsurance business could cause large losses and substantial volatility in our results of operations;
- 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;

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- changes in general economic conditions, including new or continued sovereign debt concerns in Eurozone countries 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;
- losses relating to aviation business and business produced by a certain managing underwriting agency for which we may be liable to the purchaser of our prior reinsurance business or to others in connection with the May 5, 2000 asset sale described in our periodic reports filed with the SEC;
- 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;
- statutory or regulatory developments, including as to tax policy and matters and insurance and other regulatory matters such as the adoption of proposed legislation that would affect 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; 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, 2016, 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. 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

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Arch Capital Group Ltd.:

We have reviewed the accompanying consolidated balance sheet of Arch Capital Group Ltd. and its subsidiaries (the “Company”) as of March 31, 2017, and the related consolidated statements of income, comprehensive income, changes in shareholders’ equity and cash flows for the three-month periods ended March 31, 2017 and March 31, 2016. These interim financial statements are the responsibility of the Company’s management.

We conducted our review in accordance with the standards of the Public Company Accounting Oversight Board (United States). A review of interim financial information consists principally of applying analytical procedures and making inquiries of persons responsible for financial and accounting matters. It is substantially less in scope than an audit conducted in accordance with the standards of the Public Company Accounting Oversight Board (United States), the objective of which is the expression of an opinion regarding the financial statements taken as a whole. Accordingly, we do not express such an opinion.

Based on our review, we are not aware of any material modifications that should be made to the accompanying consolidated interim financial statements for them to be in conformity with accounting principles generally accepted in the United States of America.

We previously audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheet as of December 31, 2016, and the related consolidated statements of income, comprehensive income, changes in shareholders’ equity, and cash flows for the year then ended (not presented herein), and in our report dated March 1, 2017, we expressed an unqualified opinion on those consolidated financial statements. In our opinion, the information set forth in the accompanying consolidated balance sheet information as of December 31, 2016, is fairly stated, in all material respects in relation to the consolidated balance sheet from which it has been derived.

/s/ PricewaterhouseCoopers LLP

May 5, 2017

ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(U.S. dollars in thousands, except share data)

	(Unaudited) March 31, 2017	December 31, 2016
Assets		
Investments:		
Fixed maturities available for sale, at fair value (amortized cost: \$13,767,375 and \$13,522,671)	\$ 13,745,932	\$ 13,426,577
Short-term investments available for sale, at fair value (amortized cost: \$803,624 and \$611,878)	803,619	612,005
Collateral received under securities lending, at fair value (amortized cost: \$538,353 and \$762,554)	538,361	762,565
Equity securities available for sale, at fair value (cost: \$369,189 and \$475,085)	428,594	518,041
Other investments available for sale, at fair value (cost: \$197,431 and \$149,077)	228,437	167,970
Investments accounted for using the fair value option	3,648,120	3,421,220
Investments accounted for using the equity method	861,607	811,273
Total investments	20,254,670	19,719,651
Cash	703,754	842,942
Accrued investment income	104,168	124,483
Securities pledged under securities lending, at fair value (amortized cost: \$524,758 and \$746,409)	525,569	744,980
Premiums receivable	1,254,048	1,072,435
Reinsurance recoverable on unpaid and paid losses and loss adjustment expenses	2,133,148	2,114,138
Contractholder receivables	1,766,340	1,717,436
Ceded unearned premiums	941,923	859,567
Deferred acquisition costs	487,925	447,560
Receivable for securities sold	239,678	58,284
Goodwill and intangible assets	750,315	781,553
Other assets	930,688	889,080
Total assets	\$ 30,092,226	\$ 29,372,109
Liabilities		
Reserve for losses and loss adjustment expenses	\$ 10,296,821	\$ 10,200,960
Unearned premiums	3,631,259	3,406,870
Reinsurance balances payable	321,285	300,407
Contractholder payables	1,766,340	1,717,436
Collateral held for insured obligations	327,161	301,406
Senior notes	1,732,410	1,732,258
Revolving credit agreement borrowings	734,961	756,650
Securities lending payable	538,353	762,554
Payable for securities purchased	389,649	76,183
Other liabilities	674,313	806,260
Total liabilities	20,412,552	20,060,984
Commitments and Contingencies		
Redeemable noncontrolling interests	205,644	205,553
Shareholders' Equity		
Non-cumulative preferred shares	772,555	772,555
Convertible non-voting common equivalent preferred shares	1,101,304	1,101,304
Common shares (\$0.0033 par, shares issued: 174,935,104 and 174,644,101)	583	582
Additional paid-in capital	548,053	531,687
Retained earnings	8,238,296	7,996,701
Accumulated other comprehensive income (loss), net of deferred income tax	(15,677)	(114,541)
Common shares held in treasury, at cost (shares: 51,907,618 and 51,856,584)	(2,039,270)	(2,034,570)
Total shareholders' equity available to Arch	8,605,844	8,253,718

Non-redeemable noncontrolling interests	868,186	851,854
Total shareholders' equity	9,474,030	9,105,572
Total liabilities, noncontrolling interests and shareholders' equity	\$ 30,092,226	\$ 29,372,109

See Notes to Consolidated Financial Statements

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

	(Unaudited)	
	Three Months Ended	
	March 31,	
	2017	2016
Revenues		
Net premiums written	\$ 1,276,260	\$ 1,121,235
Change in unearned premiums	(159,243)	(169,656)
Net premiums earned	1,117,017	951,579
Net investment income	117,874	93,735
Net realized gains (losses)	34,153	37,324
Other-than-temporary impairment losses	(1,807)	(7,737)
Less investment impairments recognized in other comprehensive income, before taxes	—	98
Net impairment losses recognized in earnings	(1,807)	(7,639)
Other underwriting income	4,633	5,047
Equity in net income (loss) of investment funds accounted for using the equity method	48,088	6,655
Other income (loss)	(782)	(25)
Total revenues	1,319,176	1,086,676
Expenses		
Losses and loss adjustment expenses	552,570	522,949
Acquisition expenses	182,289	167,838
Other operating expenses	174,719	150,148
Corporate expenses	27,792	9,383
Amortization of intangible assets	31,294	4,748
Interest expense	28,676	16,107
Net foreign exchange losses (gains)	19,404	23,566
Total expenses	1,016,744	894,739
Income before income taxes	302,432	191,937
Income tax expense	(28,397)	(16,310)
Net income	\$ 274,035	\$ 175,627
Net (income) loss attributable to noncontrolling interests	(20,908)	(20,829)
Net income available to Arch	253,127	154,798
Preferred dividends	(11,218)	(5,484)
Net income available to Arch common shareholders	\$ 241,909	\$ 149,314
Net income per common share and common share equivalent		
Basic	\$ 1.80	\$ 1.24
Diluted	\$ 1.74	\$ 1.20
Weighted average common shares and common share equivalents outstanding		
Basic	134,034,927	120,428,179
Diluted	139,047,672	124,496,496

See Notes to Consolidated Financial Statements

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

	(Unaudited)	
	Three Months Ended	
	March 31,	
	2017	2016
Comprehensive Income		
Net income	\$ 274,035	\$ 175,627
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	100,792	132,981
Portion of other-than-temporary impairment losses recognized in other comprehensive income, net of deferred income tax	—	(98)
Reclassification of net realized (gains) losses, net of income taxes, included in net income	(5,044)	(32,223)
Foreign currency translation adjustments	3,124	17,313
Comprehensive income	372,907	293,600
Net (income) loss attributable to noncontrolling interests	(20,908)	(20,829)
Foreign currency translation adjustments attributable to noncontrolling interests	(8)	158
Comprehensive income available to Arch	\$ 351,991	\$ 272,929

See Notes to Consolidated Financial Statements

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

	(Unaudited)	
	Three Months Ended	
	March 31,	
	2017	2016
Non-cumulative preferred shares		
Balance at beginning and end of period	\$ 772,555	\$ 325,000
Convertible non-voting common equivalent preferred shares		
Balance at beginning and end of period	1,101,304	—
Common shares		
Balance at beginning of year	582	577
Common shares issued, net	1	2
Balance at end of period	583	579
Additional paid-in capital		
Balance at beginning of year	531,687	467,339
Common shares issued, net	(1)	—
Exercise of stock options	710	4,222
Amortization of share-based compensation	15,657	14,265
Other	—	117
Balance at end of period	548,053	485,943
Retained earnings		
Balance at beginning of year	7,996,701	7,332,032
Cumulative effect of an accounting change (1)	(314)	—
Balance at beginning of year, as adjusted	7,996,387	7,332,032
Net income	274,035	175,627
Net (income) loss attributable to noncontrolling interests	(20,908)	(20,829)
Preferred share dividends	(11,218)	(5,484)
Balance at end of period	8,238,296	7,481,346
Accumulated other comprehensive income (loss), net of deferred income tax		
Balance at beginning of year	(114,541)	(16,502)
Unrealized appreciation (decline) in value of available-for-sale investments, net of deferred income tax:		
Balance at beginning of year	(27,641)	50,085
Unrealized holding gains (losses) arising during period, net of reclassification adjustment	95,748	100,758
Portion of other-than-temporary impairment losses recognized in other comprehensive income, net of deferred income tax	—	(98)
Balance at end of period	68,107	150,745
Foreign currency translation adjustments:		
Balance at beginning of year	(86,900)	(66,587)
Foreign currency translation adjustments	3,124	17,313
Foreign currency translation adjustments attributable to noncontrolling interests	(8)	158
Balance at end of period	(83,784)	(49,116)
Balance at end of period	(15,677)	101,629
Common shares held in treasury, at cost		
Balance at beginning of year	(2,034,570)	(1,941,904)
Shares repurchased for treasury	(4,700)	(77,345)
Balance at end of period	(2,039,270)	(2,019,249)
Total shareholders' equity available to Arch	8,605,844	6,375,248
Non-redeemable noncontrolling interests	868,186	754,915

Total shareholders' equity

\$	9,474,030	\$	7,130,163
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(1) See Note 2, "Recent Accounting Pronouncements," for details.

See Notes to Consolidated Financial Statements

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

	(Unaudited) Three Months Ended March 31,	
	2017	2016
Operating Activities		
Net income	\$ 274,035	\$ 175,627
Adjustments to reconcile net income to net cash provided by operating activities:		
Net realized (gains) losses	(40,855)	(43,034)
Net impairment losses recognized in earnings	1,807	7,639
Equity in net income or loss of investment funds accounted for using the equity method and other income or loss	(36,141)	3,243
Amortization of intangible assets	31,294	4,748
Share-based compensation	15,657	14,265
Changes in:		
Reserve for losses and loss adjustment expenses, net of unpaid losses and loss adjustment expenses recoverable	53,027	111,255
Unearned premiums, net of ceded unearned premiums	159,243	169,656
Premiums receivable	(176,350)	(217,348)
Deferred acquisition costs	(41,728)	(30,050)
Reinsurance balances payable	20,114	51,929
Other items, net	(51,985)	74,613
Net Cash Provided By Operating Activities	208,118	322,543
Investing Activities		
Purchases of fixed maturity investments	(10,476,918)	(8,133,537)
Purchases of equity securities	(143,833)	(128,263)
Purchases of other investments	(427,039)	(305,198)
Proceeds from sales of fixed maturity investments	10,386,746	7,827,536
Proceeds from sales of equity securities	253,347	216,012
Proceeds from sales, redemptions and maturities of other investments	317,518	211,125
Proceeds from redemptions and maturities of fixed maturity investments	174,718	163,894
Net settlements of derivative instruments	(3,921)	21,091
Net (purchases) sales of short-term investments	(397,851)	(65,594)
Change in cash collateral related to securities lending	180,946	(43,118)
Purchases of fixed assets	(5,194)	(3,952)
Other	19,603	6,737
Net Cash Provided By (Used For) Investing Activities	(121,878)	(233,267)
Financing Activities		
Purchases of common shares under share repurchase program	—	(75,256)
Proceeds from common shares issued, net	(3,990)	202
Repayments of borrowings	(22,000)	(74,171)
Change in cash collateral related to securities lending	(180,946)	43,118
Dividends paid to redeemable noncontrolling interests	(4,497)	(4,497)
Other	(5,018)	29,115
Preferred dividends paid	(11,218)	(5,484)
Net Cash Provided By (Used For) Financing Activities	(227,669)	(86,973)
Effects of exchange rate changes on foreign currency cash	2,241	2,332
Increase (decrease) in cash	(139,188)	4,635
Cash beginning of year	842,942	553,326
Cash end of period	\$ 703,754	\$ 557,961
Income taxes paid	\$ 711	\$ 2,504
Interest paid	\$ 5,829	\$ 3,813

ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

1. General

Arch Capital Group Ltd. (“ACGL”) is a Bermuda public limited liability company which provides insurance and reinsurance on a worldwide basis through its wholly-owned subsidiaries. As used herein, the “Company” means ACGL and its subsidiaries. The Company’s consolidated financial statements include the results of Watford Holdings Ltd. and its wholly owned subsidiaries. See Note 3.

On December 31, 2016, the Company completed the acquisition of United Guaranty Corporation, a North Carolina corporation (“UGC”). The acquisition of UGC (“UGC acquisition”) expanded the scale of Arch’s existing mortgage insurance businesses by combining UGC’s position as the market leader in the U.S. private mortgage insurance industry with Arch’s financial strength and history of innovation, further diversifying the Company’s business profile and customer base.

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 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, 2016 (“2016 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, including the presentation of ‘amortization of intangible assets’ on its consolidated statements of income to split out such item (previously reflected in acquisition expenses and/or other operating expenses). Such reclassifications had no effect on the

Company’s net income, comprehensive income, shareholders’ equity or cash flows. Tabular amounts are in U.S. Dollars in thousands, except share amounts, unless otherwise noted.

2. Recent Accounting Pronouncements

Recently Issued Accounting Standards Adopted

The Company adopted Financial Accounting Standards Board (“FASB”) Accounting Standard Update (“ASU”) 2016-09, “Compensation - Stock Compensation (Topic 718) - *Improvements to Employee Share-Based Payment Accounting*,” effective January 1, 2017. This ASU was issued in the 2016 first quarter to improve and simplify the accounting for employee share-based payment transactions. This ASU provides simplifications with respect to income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows for these types of transactions. With respect to the forfeiture accounting policy election, the Company has elected to account for forfeitures as they occur, which did not result in a material cumulative effect adjustment. With respect to the change in presentation in the statement of cash flows related to excess tax benefits, the Company has applied the guidance prospectively and prior periods have not been adjusted.

Recently Issued Accounting Standards Not Yet Adopted

ASU 2016-18, “Statement of Cash Flows (Topic 230) - *Restricted Cash*” was issued in the 2016 fourth quarter. The ASU requires that restricted cash and restricted cash equivalents be included with cash and cash equivalents in the reconciliation of beginning and ending cash on the statements of cash flows. As a result, transfers between cash and cash equivalents and restricted cash and restricted cash equivalents will no longer be presented on the statement of cash flows. The ASU also requires a reconciliation of the statement of the cash flows to the balance sheet if the balance sheet includes more than one line item of cash, cash equivalents, and restricted cash. The ASU is effective, with retrospective adoption, for interim and annual periods beginning after December 15, 2017, with early adoption permitted. The Company is currently assessing the impact the implementation of this ASU will have on its consolidated financial statements.

ASU 2017-08, “Receivables - Nonrefundable Fees and Other Costs (Subtopic 310-20): *Premium Amortization on Purchased Callable Debt Securities*,” was issued in the 2017 first quarter. The ASU amends the amortization period for certain purchased callable debt securities held at a premium by shortening the amortization period for the premium to the earliest call date. The ASU will be effective for the Company on January 1, 2019 and is required to be applied using a modified retrospective approach through a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in

ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

which the guidance is effective. The Company is currently assessing the impact the implementation of this ASU will have on its consolidated financial statements.

3. Variable Interest Entities and Noncontrolling Interests

A variable interest entity (“VIE”) refers to an entity that has characteristics such as (i) insufficient equity at risk to allow the entity to finance its activities without additional financial support or (ii) instances where the equity investors, as a group, do not have characteristics of a controlling financial interest. The primary beneficiary of a VIE is defined as the variable interest holder that is determined to have the controlling financial interest as a result of having both (i) the power to direct the activities of a VIE that most significantly impact the economic performance of the VIE and (ii) the obligation to absorb losses or right to receive benefits from the VIE that could potentially be significant to the VIE. If a company is determined to be the primary beneficiary, it is required to consolidate the VIE in its financial statements.

Watford Holdings Ltd.

In March 2014, the Company invested \$100.0 million and acquired approximately 11% of Watford Holdings Ltd.’s common equity and a warrant to purchase additional common equity. Watford Holdings Ltd. is the parent of Watford Re Ltd., a multi-line Bermuda reinsurance company (together with Watford Holdings Ltd., “Watford Re”). Watford Re is considered a VIE and the Company concluded that it is the primary beneficiary of Watford Re. As such, the results of Watford Re are included in the Company’s consolidated financial statements.

The Company does not guarantee or provide credit support for Watford Re, and the Company’s financial exposure to Watford Re is limited to its investment in Watford Re’s common and preferred shares and counterparty credit risk (mitigated by collateral) arising from reinsurance transactions.

The following table provides the carrying amount and balance sheet caption in which the assets and liabilities of Watford Re are reported:

	March 31, 2017	December 31, 2016
Assets		
Investments accounted for using the fair value option	\$ 1,976,466	\$ 1,857,623
Cash	47,566	74,893
Accrued investment income	14,066	17,017
Premiums receivable	196,866	189,911
Reinsurance recoverable on unpaid and paid losses and LAE	25,673	24,420
Ceded unearned premiums	16,383	12,145
Deferred acquisition costs	93,227	86,379
Receivable for securities sold	19,235	1,326
Goodwill and intangible assets	7,650	7,650
Other assets	116,336	111,386
Total assets of consolidated VIE	\$ 2,513,468	\$ 2,382,750
Liabilities		
Reserves for losses and loss adjustment expenses	\$ 566,175	\$ 510,809
Unearned premiums	319,677	293,480
Reinsurance balances payable	15,171	12,289
Revolving credit agreement borrowings	234,961	256,650
Payable for securities purchased	81,216	42,922
Other liabilities	100,198	88,976
Total liabilities of consolidated VIE	\$ 1,317,398	\$ 1,205,126
Redeemable noncontrolling interests	\$ 220,344	\$ 220,253

For the three months ended March 31, 2017, Watford Re generated \$62.2 million of cash provided by operating activities, \$60.5 million of cash used for investing activities and \$29.0 million of cash used for financing activities, compared to \$65.3 million of cash provided by operating activities, \$43.7 million of cash used for investing activities and \$51.3 million of cash used for financing activities for the three months ended March 31, 2016.

Non-redeemable noncontrolling interests

The Company accounts for the portion of Watford Re’s common equity attributable to third party investors in the shareholders’ equity section of its consolidated balance sheets. The noncontrolling ownership in Watford Re’s common shares was approximately 89% at March 31, 2017. The portion of Watford Re’s income or loss attributable to third party investors is recorded in the consolidated statements of income in ‘net (income) loss attributable to noncontrolling interests.’

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The following table sets forth activity in the non-redeemable noncontrolling interests:

	March 31,	
	2017	2016
Three Months Ended		
Balance, beginning of period	\$ 851,854	\$ 738,831
Amounts attributable to noncontrolling interests	16,324	16,242
Foreign currency translation adjustments attributable to noncontrolling interests	8	(158)
Balance, end of period	<u>\$ 868,186</u>	<u>\$ 754,915</u>

Redeemable noncontrolling interests

The Company accounts for redeemable noncontrolling interests in the mezzanine section of its consolidated balance sheets in accordance with applicable accounting guidance. Such redeemable noncontrolling interests relate to the 9,065,200 cumulative redeemable preference shares ("Watford Preference Shares") issued in March 2014 with a par value of \$0.01 per share and a liquidation preference of \$25.00 per share. Preferred dividends, including the accretion of the discount and issuance costs, are included in 'net (income) loss attributable to noncontrolling interests' in the Company's consolidated statements of income.

The following table sets forth activity in the redeemable non-controlling interests:

	March 31,	
	2017	2016
Three Months Ended		
Balance, beginning of period	\$ 205,553	\$ 205,182
Accretion of preference share issuance costs	91	92
Balance, end of period	<u>\$ 205,644</u>	<u>\$ 205,274</u>

The portion of Watford Re's income or loss attributable to third party investors, recorded in the Company's consolidated statements of income in 'net (income) loss attributable to noncontrolling interests,' are summarized in the table below:

	March 31,	
	2017	2016
Three Months Ended		
Amounts attributable to non-redeemable noncontrolling interests	\$ (16,324)	\$ (16,242)
Dividends attributable to redeemable noncontrolling interests	(4,584)	(4,587)
Net (income) loss attributable to noncontrolling interests	<u>\$ (20,908)</u>	<u>\$ (20,829)</u>

Bellemeade Re I and II

Upon closing of the UGC acquisition, the Company acquired the rights and obligations related to aggregate excess of loss reinsurance agreements with Bellemeade Re I Ltd. ("Bellemeade I"), entered into in July 2015, and with Bellemeade Re II Ltd. ("Bellemeade II"), entered into in May 2016 (the "Bellemeade Agreements"). Bellemeade I and Bellemeade II are special purpose reinsurance companies domiciled in Bermuda, each of which provided for up to approximately \$300 million of aggregate excess of loss reinsurance coverage at inception for new delinquencies on portfolios of in-force policies issued.

As a result of the evaluation of the Bellemeade Agreements, the Company concluded that both Bellemeade I and Bellemeade II are VIEs. However, given that the ceding insurers do not have the unilateral power to direct those activities that are significant to the economic performance of Bellemeade I and Bellemeade II, the Company does not consolidate Bellemeade I and Bellemeade II in its consolidated financial statements. The following table presents total assets of Bellemeade I and Bellemeade II as well as the Company's maximum exposure to loss associated with these VIEs:

	Total VIE Assets	Maximum Exposure to Loss		
		On-Balance Sheet	Off-Balance Sheet	Total
Bellemeade I	\$ 146,200	\$ 351	\$ 1,310	\$ 1,661
Bellemeade II	283,777	54	1,103	1,157
Total	<u>\$ 429,977</u>	<u>\$ 405</u>	<u>\$ 2,413</u>	<u>\$ 2,818</u>

Irving Partners Limited Partnership

Upon closing of the UGC acquisition, the Company acquired a limited partnership interest in Irving Partners Limited Partnership ("Irving Partners"), which owns and operates an office building in Greensboro, North Carolina in which the Company is the main tenant. The Company concluded that Irving Partners is a VIE but that it is not the primary beneficiary. The Company's maximum exposure to loss is approximately \$14.5 million at March 31, 2017.

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4. Earnings Per Common Share

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

	Three Months Ended	
	March 31,	
	2017	2016
Numerator:		
Net income	\$ 274,035	\$ 175,627
Amounts attributable to noncontrolling interests	(20,908)	(20,829)
Net income available to Arch	253,127	154,798
Preferred dividends	(11,218)	(5,484)
Net income available to Arch common shareholders	\$ 241,909	\$ 149,314
Denominator:		
Weighted average common shares outstanding	121,272,107	120,428,179
Series D preferred shares (1)	12,762,820	—
Weighted average common shares and common share equivalents outstanding — basic	134,034,927	120,428,179
Effect of dilutive common share equivalents:		
Nonvested restricted shares	1,646,555	1,460,654
Stock options (2)	3,366,190	2,607,663
Weighted average common shares and common share equivalents outstanding — diluted	139,047,672	124,496,496
Earnings per common share:		
Basic	\$ 1.80	\$ 1.24
Diluted	\$ 1.74	\$ 1.20

(1) Such shares are convertible non-voting common equivalent preferred shares issued in connection with the UGC acquisition.

(2) 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 2017 first quarter and 2016 first quarter, the number of stock options excluded were 263,475 and 607,208, respectively.

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5. Segment Information

The Company classifies its businesses into three underwriting segments — insurance, reinsurance and mortgage — and two other operating segments — ‘other’ and corporate (non-underwriting). 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 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 Chairman and Chief Executive Officer, the President and Chief Operating Officer, and the Chief Financial Officer of ACGL. The chief operating decision makers 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 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; lenders products; professional lines; programs; property, energy, marine and aviation; travel, accident and health; 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. and international mortgage insurance and reinsurance operations as well as government sponsored enterprise (“GSE”) credit-risk sharing transactions. Arch Mortgage Insurance Company, United Guaranty Residential Insurance Company and United Guaranty Mortgage Indemnity 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.

The corporate (non-underwriting) segment results include net investment income, other income (loss), corporate expenses, UGC transaction costs and other, interest expense, dividends related to the Company’s non-cumulative preferred shares, net realized gains or losses, net impairment losses included in earnings, equity in net income or loss of investment funds accounted for using the equity method, net foreign exchange gains or losses and income taxes. Such amounts exclude the results of the ‘other’ segment.

The ‘other’ segment includes the results of Watford Re (see Note 3). Watford Re has its own management and board of directors that is responsible for the overall profitability of the ‘other’ segment. For the ‘other’ segment, performance is measured based on net income or loss.

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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 common shareholders:

	Three Months Ended					
	March 31, 2017					
	Insurance	Reinsurance	Mortgage	Sub-Total	Other	Total
Gross premiums written (1)	\$ 782,281	\$ 475,782	\$ 348,623	\$ 1,606,686	\$ 154,120	\$ 1,657,990
Premiums ceded	(234,095)	(166,092)	(73,925)	(474,112)	(10,434)	(381,730)
Net premiums written	548,186	309,690	274,698	1,132,574	143,686	1,276,260
Change in unearned premiums	(42,540)	(64,839)	(30,175)	(137,554)	(21,689)	(159,243)
Net premiums earned	505,646	244,851	244,523	995,020	121,997	1,117,017
Other underwriting income	—	(306)	4,123	3,817	816	4,633
Losses and loss adjustment expenses	(332,641)	(105,454)	(29,065)	(467,160)	(85,410)	(552,570)
Acquisition expenses, net	(74,868)	(46,147)	(28,766)	(149,781)	(32,508)	(182,289)
Other operating expenses	(88,126)	(37,533)	(41,870)	(167,529)	(7,190)	(174,719)
Underwriting income (loss)	\$ 10,011	\$ 55,411	\$ 148,945	214,367	(2,295)	212,072
Net investment income				95,812	22,062	117,874
Net realized gains (losses)				28,512	5,641	34,153
Net impairment losses recognized in earnings				(1,807)	—	(1,807)
Equity in net income (loss) of investment funds accounted for using the equity method				48,088	—	48,088
Other income (loss)				(782)	—	(782)
Corporate expenses (2)				(12,208)	—	(12,208)
UGC transaction costs and other (2)				(15,584)	—	(15,584)
Amortization of intangible assets				(31,294)	—	(31,294)
Interest expense				(25,756)	(2,920)	(28,676)
Net foreign exchange gains (losses)				(19,845)	441	(19,404)
Income (loss) before income taxes				279,503	22,929	302,432
Income tax expense				(28,397)	—	(28,397)
Net income (loss)				251,106	22,929	274,035
Dividends attributable to redeemable noncontrolling interests				—	(4,584)	(4,584)
Amounts attributable to noncontrolling interests				—	(16,324)	(16,324)
Net income (loss) available to Arch				251,106	2,021	253,127
Preferred dividends				(11,218)	—	(11,218)
Net income (loss) available to Arch common shareholders	\$			\$ 239,888	\$ 2,021	\$ 241,909
Underwriting Ratios						
Loss ratio	65.8%	43.1%	11.9%	46.9%	70.0%	49.5%
Acquisition expense ratio	14.8%	18.8%	11.8%	15.1%	26.6%	16.3%
Other operating expense ratio	17.4%	15.3%	17.1%	16.8%	5.9%	15.6%
Combined ratio	98.0%	77.2%	40.8%	78.8%	102.5%	81.4%
Goodwill and intangible assets	\$ 24,371	\$ 773	\$ 717,521	\$ 742,665	\$ 7,650	\$ 750,315

- (1) Certain amounts included in the gross premiums written of each segment are related to intersegment transactions. Accordingly, the sum of gross premiums written for each segment does not agree to the total gross premiums written as shown in the table above due to the elimination of intersegment transactions in the total.
- (2) Certain expenses have been excluded from 'corporate expenses' and reflected in 'UGC transaction costs and other.'

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Three Months Ended March 31, 2016						
	Insurance	Reinsurance	Mortgage	Sub-Total	Other	Total
Gross premiums written (1)	\$ 798,553	\$ 481,390	\$ 111,280	\$ 1,391,061	\$ 148,606	\$ 1,437,966
Premiums ceded	(248,789)	(160,566)	(4,767)	(413,960)	(4,472)	(316,731)
Net premiums written	549,764	320,824	106,513	977,101	144,134	1,121,235
Change in unearned premiums	(36,675)	(59,616)	(44,748)	(141,039)	(28,617)	(169,656)
Net premiums earned	513,089	261,208	61,765	836,062	115,517	951,579
Other underwriting income	—	325	3,793	4,118	929	5,047
Losses and loss adjustment expenses	(323,609)	(111,598)	(8,629)	(443,836)	(79,113)	(522,949)
Acquisition expenses, net	(74,348)	(54,758)	(5,793)	(134,899)	(32,939)	(167,838)
Other operating expenses	(85,058)	(36,258)	(23,494)	(144,810)	(5,338)	(150,148)
Underwriting income (loss)	\$ 30,074	\$ 58,919	\$ 27,642	116,635	(944)	115,691
Net investment income				70,409	23,326	93,735
Net realized gains (losses)				31,862	5,462	37,324
Net impairment losses recognized in earnings				(7,639)	—	(7,639)
Equity in net income (loss) of investment funds accounted for using the equity method				6,655	—	6,655
Other income (loss)				(25)	—	(25)
Corporate expenses				(9,383)	—	(9,383)
Amortization of intangible assets				(4,748)	—	(4,748)
Interest expense				(12,627)	(3,480)	(16,107)
Net foreign exchange gains (losses)				(22,041)	(1,525)	(23,566)
Income (loss) before income taxes				169,098	22,839	191,937
Income tax expense				(16,310)	—	(16,310)
Net income (loss)				152,788	22,839	175,627
Dividends attributable to redeemable noncontrolling interests				—	(4,587)	(4,587)
Amounts attributable to noncontrolling interests				—	(16,242)	(16,242)
Net income (loss) available to Arch				152,788	2,010	154,798
Preferred dividends				(5,484)	—	(5,484)
Net income (loss) available to Arch common shareholders				\$ 147,304	\$ 2,010	\$ 149,314
Underwriting Ratios						
Loss ratio	63.1%	42.7%	14.0%	53.1%	68.5%	55.0%
Acquisition expense ratio	14.5%	21.0%	9.4%	16.1%	28.5%	17.6%
Other operating expense ratio	16.6%	13.9%	38.0%	17.3%	4.6%	15.8%
Combined ratio	94.2%	77.6%	61.4%	86.5%	101.6%	88.4%
Goodwill and intangible assets	\$ 27,825	\$ 1,713	\$ 63,132	\$ 92,670	\$ —	\$ 92,670

(1) Certain amounts included in the gross premiums written of each segment are related to intersegment transactions. Accordingly, the sum of gross premiums written for each segment does not agree to the total gross premiums written as shown in the table above due to the elimination of intersegment transactions in the total.

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6. 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 March 31,	
	2017	2016
Reserve for losses and loss adjustment expenses at beginning of year	\$ 10,200,960	\$ 9,125,250
Unpaid losses and loss adjustment expenses recoverable	2,083,575	1,828,837
Net reserve for losses and loss adjustment expenses at beginning of year	8,117,385	7,296,413
Net incurred losses and loss adjustment expenses relating to losses occurring in:		
Current year	635,775	578,978
Prior years	(83,205)	(56,029)
Total net incurred losses and loss adjustment expenses	552,570	522,949
Net foreign exchange losses (gains)	31,278	33,575
Net paid losses and loss adjustment expenses relating to losses occurring in:		
Current year	(34,957)	(49,079)
Prior years	(464,585)	(362,595)
Total net paid losses and loss adjustment expenses	(499,542)	(411,674)
Net reserve for losses and loss adjustment expenses at end of year	8,201,691	7,441,263
Unpaid losses and loss adjustment expenses recoverable	2,095,130	1,937,724
Reserve for losses and loss adjustment expenses at end of period	\$ 10,296,821	\$ 9,378,987

2017 Prior Year Development

During the 2017 first quarter, the Company recorded net favorable development on prior year loss reserves of \$83.2 million, which consisted of \$57.2 million from the reinsurance segment, \$2.1 million from the insurance segment, \$23.6 million from the mortgage segment and \$0.3 million from the 'other' segment.

The reinsurance segment's net favorable development of \$57.2 million, or 23.4 points, for the 2017 first quarter consisted of \$40.8 million from short-tailed lines and \$16.4 million from long-tailed and medium-tailed lines. Favorable development in short-tailed lines included \$34.0 million from property catastrophe and property other than property catastrophe reserves, across most underwriting years (i.e., all premiums and losses attributable to contracts having an inception or renewal date within the given twelve-month period), reflecting lower levels of reported and paid claims activity than previously anticipated which led to decreases in certain loss ratio selections during the period. Favorable development in long-tailed and medium-tailed lines reflected reductions in casualty reserves of \$5.5 million based on varying levels of reported and paid claims activity, primarily from the 2003 to 2013 underwriting years, and favorable development in marine reserves of \$9.9 million across most underwriting years.

The insurance segment's net favorable development of \$2.1 million, or 0.4 points, for the 2017 first quarter consisted of \$7.0 million of net favorable development in long-tailed lines and \$1.9 million of net favorable development in short-tailed

lines, partially offset by \$6.8 million of net adverse development in medium-tailed lines. Net favorable development in long-tailed lines reflected net reductions in executive assurance reserves from the 2008 to 2014 accident years (i.e., the year in which a loss occurred). Net favorable development in short-tailed lines primarily resulted from property (including special risk other than marine) reserves from the 2011 to 2016 accident years. Net adverse development in medium-tailed lines primarily resulted from an increase in programs of \$14.2 million stemming in part from development on a small number of programs in the 2013 and 2014 accident years, partially offset by net favorable development of \$7.5 million in other medium-tailed lines, primarily in professional liability and surety.

The mortgage segment's net favorable development was \$23.6 million, or 9.6 points, for the 2017 first quarter. The 2017 first quarter development was primarily driven by continued lower than expected claim emergence across most origination years and also reflected \$8.2 million related to subrogation recoveries on second lien and other portfolios.

2016 Prior Year Reserve Development

During the 2016 first quarter, the Company recorded net favorable development on prior year loss reserves of \$56.0 million, which consisted of \$47.4 million from the reinsurance segment, \$6.2 million from the insurance segment, \$2.7 million from the mortgage segment less adverse development of \$0.2 million from the 'other' segment.

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The reinsurance segment's net favorable development of \$47.4 million , or 18.1 points, for the 2016 first quarter consisted of \$36.5 million from short-tailed lines and \$10.9 million from long-tailed and medium-tailed lines. Favorable development in short-tailed lines included \$29.8 million from property catastrophe and property other than property catastrophe reserves, primarily from the 2013 to 2015 underwriting years, reflecting lower levels of reported and paid claims activity than previously anticipated which led to decreases in certain loss ratio selections during the period. Favorable development in long-tailed lines reflected reductions in casualty reserves of \$14.2 million based on varying levels of reported and paid claims activity, primarily from the 2002 to 2005 underwriting years and 2009 to 2011 underwriting years. Such amounts were partially offset by net adverse development on marine reserves of \$2.0 million , partially offset by favorable development from most other underwriting years.

The insurance segment's net favorable development of \$6.2 million , or 1.2 points, for the 2016 first quarter consisted of \$9.9 million of net favorable development in long-tailed lines and \$3.7 million of net favorable development in short-tailed lines, partially offset by \$7.4 million of net adverse development in medium-tailed lines. Net favorable development in long-tailed lines reflected favorable development in casualty reserves of \$6.9 million , primarily from the 2008 and 2012 accident years. Net favorable development in short-tailed lines primarily resulted from reductions in property (including special risk other than marine) reserves from the 2012 to 2014 accident years, primarily due to varying levels of reported claims activity. Net adverse development in medium tailed lines primarily resulted from an increase in programs of \$6.1 million with approximately 30% stemming from terminated programs.

The mortgage segment's net favorable development was \$2.7 million , or 4.4 points, for the 2016 first quarter . The 2016 first quarter development was primarily driven by lower than expected claim rates across most origination years.

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7. Investment Information

At March 31, 2017, total investable assets of \$20.74 billion included \$18.83 billion managed by the Company and \$1.90 billion attributable to Watford Re.

Available For Sale Investments

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

	Estimated Fair Value	Gross Unrealized Gains	Gross Unrealized Losses	Cost or Amortized Cost	OTTI Unrealized Losses (2)
March 31, 2017					
Fixed maturities (1):					
Corporate bonds	\$ 4,546,756	\$ 31,033	\$ (36,615)	\$ 4,552,338	\$ (1,876)
Mortgage backed securities	412,023	5,210	(2,712)	409,525	(3,323)
Municipal bonds	2,519,112	14,332	(17,411)	2,522,191	(201)
Commercial mortgage backed securities	590,521	3,485	(6,040)	593,076	—
U.S. government and government agencies	3,266,908	7,940	(11,152)	3,270,120	—
Non-U.S. government securities	1,295,366	26,017	(39,356)	1,308,705	—
Asset backed securities	1,638,347	8,984	(4,910)	1,634,273	(22)
Total	14,269,033	97,001	(118,196)	14,290,228	(5,422)
Equity securities	431,062	66,628	(6,660)	371,094	—
Other investments	228,437	31,844	(838)	197,431	—
Short-term investments	803,619	120	(125)	803,624	—
Total	\$ 15,732,151	\$ 195,593	\$ (125,819)	\$ 15,662,377	\$ (5,422)
December 31, 2016					
Fixed maturities (1):					
Corporate bonds	\$ 4,392,373	\$ 27,606	\$ (46,905)	\$ 4,411,672	\$ (2,285)
Mortgage backed securities	490,093	4,794	(8,357)	493,656	(3,323)
Municipal bonds	3,713,434	8,554	(29,154)	3,734,034	(201)
Commercial mortgage backed securities	536,051	2,876	(6,508)	539,683	—
U.S. government and government agencies	2,804,540	9,319	(24,437)	2,819,658	—
Non-U.S. government securities	1,096,440	19,036	(56,872)	1,134,276	—
Asset backed securities	1,123,987	6,897	(6,526)	1,123,616	(22)
Total	14,156,918	79,082	(178,759)	14,256,595	(5,831)
Equity securities	532,680	62,627	(17,517)	487,570	—
Other investments	167,970	21,358	(2,465)	149,077	—
Short-term investments	612,005	272	(145)	611,878	—
Total	\$ 15,469,573	\$ 163,339	\$ (198,886)	\$ 15,505,120	\$ (5,831)

- (1) In securities lending transactions, the Company receives collateral in excess of the fair value of the securities pledged. For purposes of this table, the Company has excluded the collateral received under securities lending, at fair value and included the securities pledged under securities lending, at fair value. See "—Securities Lending Agreements."
- (2) Represents the total other-than-temporary impairments ("OTTI") recognized in accumulated other comprehensive income ("AOCI"). It does not include the change in fair value subsequent to the impairment measurement date. At March 31, 2017, the net unrealized gain related to securities for which a non-credit OTTI was recognized in AOCI was \$2.0 million, compared to a net unrealized gain of \$2.8 million at December 31, 2016.

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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
March 31, 2017						
Fixed maturities (1):						
Corporate bonds	\$ 1,832,009	\$ (34,331)	\$ 26,288	\$ (2,284)	\$ 1,858,297	\$ (36,615)
Mortgage backed securities	137,291	(2,652)	4,150	(60)	141,441	(2,712)
Municipal bonds	1,043,998	(16,890)	25,004	(521)	1,069,002	(17,411)
Commercial mortgage backed securities	304,022	(5,890)	3,928	(150)	307,950	(6,040)
U.S. government and government agencies	1,803,247	(11,152)	—	—	1,803,247	(11,152)
Non-U.S. government securities	914,310	(39,153)	13,924	(203)	928,234	(39,356)
Asset backed securities	662,917	(4,257)	40,477	(653)	703,394	(4,910)
Total	6,697,794	(114,325)	113,771	(3,871)	6,811,565	(118,196)
Equity securities	134,646	(6,660)	—	—	134,646	(6,660)
Other investments	25,189	(838)	—	—	25,189	(838)
Short-term investments	43,717	(125)	—	—	43,717	(125)
Total	\$ 6,901,346	\$ (121,948)	\$ 113,771	\$ (3,871)	\$ 7,015,117	\$ (125,819)
December 31, 2016						
Fixed maturities (1):						
Corporate bonds	\$ 1,700,813	\$ (43,011)	\$ 46,902	\$ (3,894)	\$ 1,747,715	\$ (46,905)
Mortgage backed securities	402,699	(8,134)	6,105	(223)	408,804	(8,357)
Municipal bonds	1,513,308	(28,504)	29,636	(650)	1,542,944	(29,154)
Commercial mortgage backed securities	231,374	(6,331)	5,635	(177)	237,009	(6,508)
U.S. government and government agencies	1,888,018	(24,437)	—	—	1,888,018	(24,437)
Non-U.S. government securities	807,598	(56,872)	—	—	807,598	(56,872)
Asset backed securities	627,557	(5,465)	65,723	(1,061)	693,280	(6,526)
Total	7,171,367	(172,754)	154,001	(6,005)	7,325,368	(178,759)
Equity securities	269,381	(17,517)	—	—	269,381	(17,517)
Other investments	39,299	(2,465)	—	—	39,299	(2,465)
Short-term investments	29,146	(145)	—	—	29,146	(145)
Total	\$ 7,509,193	\$ (192,881)	\$ 154,001	\$ (6,005)	\$ 7,663,194	\$ (198,886)

(1) In securities lending transactions, the Company receives collateral in excess of the fair value of the securities pledged. For purposes of this table, the Company has excluded the collateral received under securities lending, at fair value and included the securities pledged under securities lending, at fair value. See “—Securities Lending Agreements.”

At March 31, 2017, on a lot level basis, approximately 3,350 security lots out of a total of approximately 7,720 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 \$4.4 million. At December 31, 2016, on a lot level basis, approximately 3,540 security lots out of a total of approximately 7,240 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 \$4.6 million.

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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.

Maturity	March 31, 2017		December 31, 2016	
	Estimated Fair Value	Amortized Cost	Estimated Fair Value	Amortized Cost
Due in one year or less	\$ 633,926	\$ 632,468	\$ 560,830	\$ 557,675
Due after one year through five years	7,197,090	7,217,033	6,158,148	6,211,099
Due after five years through 10 years	3,337,574	3,339,974	4,676,847	4,710,017
Due after 10 years	459,552	463,879	610,962	620,849
	11,628,142	11,653,354	12,006,787	12,099,640
Mortgage backed securities	412,023	409,525	490,093	493,656
Commercial mortgage backed securities	590,521	593,076	536,051	539,683
Asset backed securities	1,638,347	1,634,273	1,123,987	1,123,616
Total (1)	\$ 14,269,033	\$ 14,290,228	\$ 14,156,918	\$ 14,256,595

(1) In securities lending transactions, the Company receives collateral in excess of the fair value of the securities pledged. For purposes of this table, the Company has excluded the collateral received under securities lending, at fair value and included the securities pledged under securities lending, at fair value. See "—Securities Lending Agreements."

Securities Lending Agreements

The Company enters into securities lending agreements with financial institutions to enhance investment income whereby it loans certain of its securities to third parties, primarily major brokerage firms, for short periods of time through a lending agent. The Company maintains legal control over the securities it lends, retains the earnings and cash flows associated with the loaned securities and receives a fee from the borrower for the temporary use of the securities. An indemnification agreement with the lending agent protects the Company in the event a borrower becomes insolvent or fails to return any of the securities on loan from the Company.

The Company receives collateral in the form of cash or securities. Cash collateral primarily consists of short-term investments. At March 31, 2017, the fair value of the cash collateral received on securities lending was \$31.5 million and the fair value of security collateral received was \$506.9 million. At December 31, 2016, the fair value of the cash collateral received on securities lending was \$212.5 million, and the fair value of security collateral received was \$550.1 million.

The Company's securities lending transactions were accounted for as secured borrowings with significant investment categories as follows:

	Remaining Contractual Maturity of the Agreements				
	Overnight and Continuous	Less than 30 Days	30-90 Days	90 Days or More	Total
March 31, 2017					
U.S. government and government agencies	\$ 358,293	\$ —	\$ 139,416	\$ 8,501	\$ 506,210
Corporate bonds	29,624	—	—	—	29,624
Equity securities	2,519	—	—	—	2,519
Total	\$ 390,436	\$ —	\$ 139,416	\$ 8,501	\$ 538,353
Gross amount of recognized liabilities for securities lending in offsetting disclosure in Note 9					\$ —
Amounts related to securities lending not included in offsetting disclosure in Note 9					\$ 538,353
December 31, 2016					
U.S. government and government agencies	\$ 556,015	\$ 31,244	\$ 126,093	\$ 5,140	\$ 718,492
Corporate bonds	29,078	—	—	—	29,078
Equity securities	14,984	—	—	—	14,984
Total	\$ 600,077	\$ 31,244	\$ 126,093	\$ 5,140	\$ 762,554
Gross amount of recognized liabilities for securities lending in offsetting disclosure in Note 9					\$ —
Amounts related to securities lending not included in offsetting disclosure in Note 9					\$ 762,554

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Other Investments

The following table summarizes the Company's other investments, including available for sale and fair value option components:

	March 31, 2017	December 31, 2016
Available for sale:		
Asian and emerging markets	\$ 109,084	\$ 84,778
Investment grade fixed income	52,016	33,923
Credit related funds	11,003	7,469
Other	56,334	41,800
Total available for sale	228,437	167,970
Fair value option:		
Term loan investments (par value: \$1,145,832 and \$1,208,537)	1,123,568	1,190,799
Mezzanine debt funds	109,334	127,943
Credit related funds	208,707	218,298
Investment grade fixed income	82,718	75,468
Asian and emerging markets	205,150	178,568
Other (1)	165,837	129,717
Total fair value option	1,895,314	1,920,793
Total	\$ 2,123,751	\$ 2,088,763

(1) Includes fund investments with strategies in mortgage servicing rights, transportation, infrastructure and other.

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.

Fair Value Option

The following table summarizes the Company's assets and liabilities which are accounted for using the fair value option:

	March 31, 2017	December 31, 2016
Fixed maturities	\$ 1,112,945	\$ 1,099,116
Other investments	1,895,314	1,920,793
Short-term investments	581,508	373,669
Equity securities	58,353	27,642
Investments accounted for using the fair value option	\$ 3,648,120	\$ 3,421,220

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:

	March 31, 2017	December 31, 2016
Investments accounted for using the equity method (1)	\$ 861,607	\$ 800,970
Investments accounted for using the fair value option (2)	89,726	90,804
Total	\$ 951,333	\$ 891,774

- (1) Aggregate unfunded commitments were \$797.6 million at March 31, 2017, compared to \$776.6 million at December 31, 2016.
- (2) Aggregate unfunded commitments were \$66.7 million at March 31, 2017, compared to \$16.7 million at December 31, 2016.

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Net Investment Income

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

	March 31,	
	2017	2016
Three Months Ended		
Fixed maturities	\$ 94,393	\$ 73,673
Term loan investments	21,170	20,012
Equity securities (dividends)	2,643	3,435
Short-term investments	1,759	496
Other (1)	18,410	13,743
Gross investment income	138,375	111,359
Investment expenses	(20,501)	(17,624)
Net investment income	\$ 117,874	\$ 93,735

(1) Includes income distributions from investment funds and other items.

Net Realized Gains (Losses)

Net realized gains (losses) were as follows, excluding other than-temporary impairment provision.

	March 31,	
	2017	2016
Three Months Ended		
Available for sale securities:		
Gross gains on investment sales	\$ 69,175	\$ 107,819
Gross losses on investment sales	(61,362)	(63,131)
Change in fair value of assets and liabilities accounted for using the fair value option:		
Fixed maturities	20,541	(333)
Other investments	17,248	(21,548)
Equity securities	3,545	36
Short-term investments	4	(422)
Derivative instruments (1)	(9,181)	20,732
Other (2)	(5,817)	(5,829)
Net realized gains (losses)	\$ 34,153	\$ 37,324

(1) See Note 9 for information on the Company's derivative instruments.

(2) Includes the re-measurement of contingent consideration liability amounts.

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

The Company recorded \$48.1 million of equity in net income related to investment funds accounted for using the equity method in the 2017 first quarter, compared to \$6.7 million of loss for the 2016 first quarter. 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.

Other-Than-Temporary Impairments

The Company performs quarterly reviews of its available for sale investments in order to determine whether declines in fair value below the amortized cost basis were considered other-than-temporary in accordance with applicable guidance.

The following table details the net impairment losses recognized in earnings by asset class:

	March 31,	
	2017	2016
Three Months Ended		
Fixed maturities:		
Mortgage backed securities	\$ (1,319)	\$ (473)
Corporate bonds	(1)	(4,880)
Non-U.S. government securities	(198)	(181)
Asset backed securities	—	(6)
Total	(1,518)	(5,540)
Equity securities	(186)	(1,102)
Other investments	(103)	(997)
Net impairment losses recognized in earnings	\$ (1,807)	\$ (7,639)

Net impairment losses recognized in earnings in the 2017 first quarter were primarily on mortgage backed securities and reflected the Company's decision to liquidate a portfolio of mortgage backed securities in April 2017. The Company recorded impairment losses on securities in such portfolio that were in an unrealized loss position at March 31, 2017.

The Company believes that the \$5.4 million of OTTI included in accumulated other comprehensive income at March 31, 2017 on the securities which were considered by the Company to be impaired was due to market and sector-related factors (*i.e.*, not credit losses). At March 31, 2017, the Company did not intend to sell these securities, or any other securities which were in an unrealized loss position, and determined that it is more likely than not that the Company will not be required to sell such securities before recovery of their cost basis.

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The following table provides a roll forward of the amount related to credit losses recognized in earnings for which a portion of an OTTI was recognized in accumulated other comprehensive income:

	March 31,	
	2017	2016
Three Months Ended		
Balance at start of period	\$ 13,138	\$ 26,875
Credit loss impairments recognized on securities not previously impaired	—	1,063
Credit loss impairments recognized on securities previously impaired	23	522
Reductions for increases in cash flows expected to be collected that are recognized over the remaining life of the security	—	—
Reductions for securities sold during the period	(624)	(10,169)
Balance at end of period	\$ 12,537	\$ 18,291

Restricted Assets

The Company is required to maintain assets on deposit, which primarily consist of fixed maturities, with various regulatory authorities to support its insurance and reinsurance operations. The Company's insurance and reinsurance subsidiaries maintain assets in trust accounts as collateral for insurance and reinsurance 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 10 for further details.

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

	March 31, 2017	December 31, 2016
Assets used for collateral or guarantees:		
Affiliated transactions	\$ 3,991,217	\$ 3,871,971
Third party agreements	1,545,255	1,513,079
Deposits with U.S. regulatory authorities	528,594	472,890
Deposits with non-U.S. regulatory authorities	45,332	44,399
Total restricted assets	\$ 6,110,398	\$ 5,902,339

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.,

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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 March 31, 2017.

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. Of the \$19.62 billion of financial assets and liabilities measured at fair value at March 31, 2017, approximately \$177.9 million, or 0.9%, were priced using non-binding broker-dealer quotes. Of the \$19.10 billion of financial assets and liabilities measured at fair value at December 31, 2016, approximately \$234.0 million, or 1.2%, were priced using non-binding broker-dealer quotes.

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. One security is included in Level 3 due to a low level of transparency on the inputs used in the pricing process.
- 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.
- 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.
- Commercial mortgage-backed securities — valuations provided by independent pricing services, substantially all through index providers and pricing vendors with a small

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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. 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.

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. Other equity securities are included in Level 2 of the valuation hierarchy.

Other investments

The Company determined that exchange-traded investments in mutual funds would be included in Level 1 as their fair values are based on quoted market prices in active markets. Other investments also 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.

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 other short-term investments are generally determined using the spread above the risk-free yield curve and are classified within Level 2.

Contingent consideration liabilities

Contingent consideration liabilities (included in 'other liabilities' in the consolidated balance sheets) include amounts related to the acquisition of CMG Mortgage Insurance Company and its affiliated mortgage insurance companies and other acquisitions. Such amounts 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 future payments using an income approach based on modeled inputs which include a weighted average cost of capital. The Company determined that contingent consideration liabilities would be included within Level 3.

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The following table presents the Company's financial assets and liabilities measured at fair value by level at March 31, 2017 :

	Estimated Fair Value	Estimated Fair Value Measurements Using:		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
<u>Assets measured at fair value (1):</u>				
Available for sale securities:				
Fixed maturities:				
Corporate bonds	\$ 4,546,756	\$ —	\$ 4,528,155	\$ 18,601
Mortgage backed securities	412,023	—	412,023	—
Municipal bonds	2,519,112	—	2,519,112	—
Commercial mortgage backed securities	590,521	—	590,521	—
U.S. government and government agencies	3,266,908	3,192,592	74,316	—
Non-U.S. government securities	1,295,366	—	1,295,366	—
Asset backed securities	1,638,347	—	1,627,710	10,637
Total	14,269,033	3,192,592	11,047,203	29,238
Equity securities	431,062	427,762	3,300	—
Short-term investments	803,619	796,075	7,544	—
Other investments	126,112	122,773	3,339	—
Other investments measured at net asset value (2)	102,325			
Total other investments	228,437	122,773	3,339	—
Derivative instruments (4)	29,059	—	29,059	—
Fair value option:				
Corporate bonds	817,690	—	817,690	—
Non-U.S. government bonds	55,504	—	55,504	—
Mortgage backed securities	16,489	—	16,489	—
Asset backed securities	16,198	—	16,198	—
U.S. government and government agencies	207,064	207,064	—	—
Short-term investments	581,508	580,315	1,193	—
Equity securities	58,353	55,311	3,042	—
Other investments	1,338,661	90,475	1,223,186	25,000
Other investments measured at net asset value (2)	556,653			
Total	3,648,120	933,165	2,133,302	25,000
Total assets measured at fair value	\$ 19,409,330	\$ 5,472,367	\$ 13,223,747	\$ 54,238
<u>Liabilities measured at fair value:</u>				
Contingent consideration liabilities	\$ (125,544)	\$ —	\$ —	\$ (125,544)
Securities sold but not yet purchased (3)	(59,430)	—	(59,430)	—
Derivative instruments (4)	(22,227)	—	(22,227)	—
Total liabilities measured at fair value	\$ (207,201)	\$ —	\$ (81,657)	\$ (125,544)

- (1) In securities lending transactions, the Company receives collateral in excess of the fair value of the securities pledged. For purposes of this table, the Company has excluded the collateral received under securities lending, at fair value and included the securities pledged under securities lending, at fair value. See Note 7 , "Investment Information—Securities Lending Agreements."
- (2) 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.
- (3) Represents the Company's obligations to deliver securities that it did not own at the time of sale. Such amounts are included in "other liabilities" on the Company's consolidated balance sheets.
- (4) See Note 9 , "Derivative Instruments."

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The following table presents the Company's financial assets and liabilities measured at fair value by level at December 31, 2016 :

	Estimated Fair Value	Estimated Fair Value Measurements Using:		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
<u>Assets measured at fair value (1):</u>				
Available for sale securities:				
Fixed maturities:				
Corporate bonds	\$ 4,392,373	\$ —	\$ 4,374,029	\$ 18,344
Mortgage backed securities	490,093	—	490,093	—
Municipal bonds	3,713,434	—	3,713,434	—
Commercial mortgage backed securities	536,051	—	536,051	—
U.S. government and government agencies	2,804,540	2,691,575	112,965	—
Non-U.S. government securities	1,096,440	—	1,096,440	—
Asset backed securities	1,123,987	—	1,112,698	11,289
Total	14,156,918	2,691,575	11,435,710	29,633
Equity securities	532,680	529,695	2,985	—
Short-term investments	612,005	608,862	3,143	—
Other investments	112,313	112,313	—	—
Other investments measured at net asset value (2)	55,657			
Total other investments	167,970	112,313	—	—
Derivative instruments (4)	28,410	—	28,410	—
Fair value option:				
Corporate bonds	790,935	—	790,935	—
Non-U.S. government bonds	61,747	—	61,747	—
Mortgage backed securities	18,624	—	18,624	—
Asset backed securities	30,324	—	30,324	—
U.S. government and government agencies	197,486	197,486	—	—
Short-term investments	373,669	309,127	64,542	—
Equity securities	27,642	25,328	2,314	—
Other investments	1,226,242	80,706	1,120,536	25,000
Other investments measured at net asset value (2)	694,551			
Total	3,421,220	612,647	2,089,022	25,000
Total assets measured at fair value	\$ 18,919,203	\$ 4,555,092	\$ 13,559,270	\$ 54,633
<u>Liabilities measured at fair value:</u>				
Contingent consideration liabilities	\$ (122,350)	\$ —	\$ —	\$ (122,350)
Securities sold but not yet purchased (3)	(33,157)	—	(33,157)	—
Derivative instruments (4)	(26,049)	—	(26,049)	—
Total liabilities measured at fair value	\$ (181,556)	\$ —	\$ (59,206)	\$ (122,350)

- (1) In securities lending transactions, the Company receives collateral in excess of the fair value of the securities pledged. For purposes of this table, the Company has excluded the collateral received under securities lending, at fair value and included the securities pledged under securities lending, at fair value. See Note 7, "Investment Information—Securities Lending Agreements."
- (2) 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.
- (3) Represents the Company's obligations to deliver securities that it did not own at the time of sale. Such amounts are included in "other liabilities" on the Company's consolidated balance sheets.
- (4) See Note 9, "Derivative Instruments."

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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		Contingent Consideration Liabilities
	Asset Backed Securities	Corporate Bonds	Other Investments	Total	
Three Months Ended March 31, 2017					
Balance at beginning of period	\$ 11,289	\$ 18,344	\$ 25,000	\$ 54,633	\$ (122,350)
Total gains or (losses) (realized/unrealized)					
Included in earnings (1)	707	257	—	964	(3,646)
Included in other comprehensive income	—	—	—	—	—
Purchases, issuances, sales and settlements					
Purchases	—	—	—	—	—
Issuances	—	—	—	—	—
Sales	—	—	—	—	—
Settlements	(1,359)	—	—	(1,359)	452
Transfers in and/or out of Level 3	—	—	—	—	—
Balance at end of period	<u>\$ 10,637</u>	<u>\$ 18,601</u>	<u>\$ 25,000</u>	<u>\$ 54,238</u>	<u>\$ (125,544)</u>
Three Months Ended March 31, 2016					
Balance at beginning of period	\$ 57,500	\$ 16,368	\$ —	\$ 73,868	\$ (96,048)
Total gains or (losses) (realized/unrealized)					
Included in earnings (1)	—	(1,202)	—	(1,202)	(5,198)
Included in other comprehensive income	—	—	—	—	—
Purchases, issuances, sales and settlements					
Purchases	—	—	—	—	—
Issuances	—	—	—	—	—
Sales	—	—	—	—	—
Settlements	—	—	—	—	536
Transfers in and/or out of Level 3	—	—	—	—	—
Balance at end of period	<u>\$ 57,500</u>	<u>\$ 15,166</u>	<u>\$ —</u>	<u>\$ 72,666</u>	<u>\$ (100,710)</u>

(1) Gains or losses on asset backed securities were included in net impairment losses recognized in earnings while gains or losses on corporate bonds and contingent consideration liabilities 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 March 31, 2017, due to their respective short maturities. As these financial instruments are not actively traded, their respective fair values are classified within Level 2.

At March 31, 2017, the senior notes of ACG were carried at their cost, net of debt issuance costs, of \$297.0 million and had a fair value of \$394.7 million, while the senior notes of Arch Capital Group (U.S.) Inc. ("Arch-U.S.") were carried at their cost, net of debt issuance costs, of \$494.5 million and had a fair value of \$535.6 million. The senior notes of Arch Capital Finance LLC due in 2026 were carried at their cost, net of debt issuance costs, of \$495.8 million and had a fair value of \$515.2 million, while the senior notes due in 2046 were carried at their cost, net of debt issuance costs, of \$445.1 million and had a fair value of \$488.0 million. 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.

In addition, 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

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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		Notional Value (1)
	Asset Derivatives	Liability Derivatives	
<u>March 31, 2017</u>			
Futures contracts (2)	\$ 3,550	\$ (4,489)	\$ 2,276,070
Foreign currency forward contracts (2)	7,363	(11,435)	1,264,235
TBAs (3)	32,011	(32,791)	63,966
Other (2)	18,146	(6,303)	1,552,009
Total	<u>\$ 61,070</u>	<u>\$ (55,018)</u>	
<u>December 31, 2016</u>			
Futures contracts (2)	\$ 360	\$ (9,398)	\$ 1,655,530
Foreign currency forward contracts (2)	9,354	(12,941)	1,186,386
TBAs (3)	—	—	—
Other (2)	20,287	(3,710)	1,014,863
Total	<u>\$ 30,001</u>	<u>\$ (26,049)</u>	

- (1) Represents the absolute notional value of all outstanding contracts, consisting of long and short positions.
- (2) The fair value of asset derivatives are included in 'other assets' and the fair value of liability derivatives are included in 'other liabilities.'
- (3) The fair value of TBAs are included in 'fixed maturities available for sale, at fair value.'

The Company did not hold any derivatives which were designated as hedging instruments at March 31, 2017 or December 31, 2016.

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 March 31, 2017, asset derivatives and liability derivatives of \$59.3 million and \$54.6 million, respectively, were subject to a master netting agreement, compared to \$28.4 million and

\$26.0 million, respectively, at December 31, 2016. The remaining derivatives included in the preceding table were not subject to a master netting agreement.

All realized and unrealized contract gains and 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:	March 31,	
	2017	2016
Three Months Ended		
Net realized gains (losses):		
Futures contracts	\$ 7,720	\$ 26,451
Foreign currency forward contracts	(11,766)	(4,752)
TBAs	(65)	297
Other	(5,070)	(1,264)
Total	<u>\$ (9,181)</u>	<u>\$ 20,732</u>

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 \$1.45 billion at March 31, 2017.

11. Share Transactions

Share Repurchases

The board of directors of ACGL has authorized the investment in ACGL's common shares through a share repurchase program. Since the inception of the share repurchase program, ACGL has repurchased approximately 125.2 million common shares for an aggregate purchase price of \$3.68 billion. During the 2017 first quarter, the Company did not repurchase any shares under the share repurchase program. During the 2016 first quarter, ACGL repurchased 1.1 million common shares for an aggregate purchase price of \$75.3 million. At March 31, 2017, \$446.5 million 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, 2019. 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.

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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	
		March 31,	
		2017	2016
Unrealized appreciation on available-for-sale investments			
	Net realized gains (losses)	\$ 7,813	\$ 44,687
	Other-than-temporary impairment losses	(1,807)	(7,737)
	Total before tax	6,006	36,950
	Income tax (expense) benefit	(962)	(4,727)
	Net of tax	\$ 5,044	\$ 32,223

	Before Tax Amount	Tax Expense (Benefit)	Net of Tax Amount
Three Months Ended March 31, 2017			
Unrealized appreciation (decline) in value of investments:			
Unrealized holding gains (losses) arising during period	\$ 111,472	\$ 10,680	\$ 100,792
Portion of other-than-temporary impairment losses recognized in other comprehensive income (loss)	—	—	—
Less reclassification of net realized gains (losses) included in net income	6,006	962	5,044
Foreign currency translation adjustments	3,165	41	3,124
Other comprehensive income (loss)	\$ 108,631	\$ 9,759	\$ 98,872

Three Months Ended March 31, 2016			
Unrealized appreciation (decline) in value of investments:			
Unrealized holding gains (losses) arising during period	\$ 152,174	\$ 19,193	\$ 132,981
Portion of other-than-temporary impairment losses recognized in other comprehensive income (loss)	(98)	—	(98)
Less reclassification of net realized gains (losses) included in net income	36,950	4,727	32,223
Foreign currency translation adjustments	17,860	547	17,313
Other comprehensive income (loss)	\$ 132,986	\$ 15,013	\$ 117,973

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13. Guarantor Financial Information

The following tables present condensed financial information for ACGL, Arch-U.S., a 100% owned subsidiary of ACGL, and ACGL's other subsidiaries.

Condensed Consolidating Balance Sheet	March 31, 2017				
	ACGL (Parent Guarantor)	Arch-U.S. (Subsidiary Issuer)	Other ACGL Subsidiaries	Consolidating Adjustments and Eliminations	ACGL Consolidated
Assets					
Total investments	\$ 256	\$ 41,715	\$ 20,227,399	\$ (14,700)	\$ 20,254,670
Cash	10,177	42,745	650,832	—	703,754
Investments in subsidiaries	8,992,903	3,843,774	—	(12,836,677)	—
Due from subsidiaries and affiliates	1,626	52,032	1,868,171	(1,921,829)	—
Premiums receivable	—	—	1,891,983	(637,935)	1,254,048
Reinsurance recoverable on unpaid and paid losses and loss adjustment expenses	—	—	6,209,021	(4,075,873)	2,133,148
Contractholder receivables	—	—	1,766,340	—	1,766,340
Ceded unearned premiums	—	—	2,201,994	(1,260,071)	941,923
Deferred acquisition costs	—	—	638,415	(150,490)	487,925
Goodwill and intangible assets	—	—	750,315	—	750,315
Other assets	14,730	55,658	1,893,742	(164,027)	1,800,103
Total assets	\$ 9,019,692	\$ 4,035,924	\$ 38,098,212	\$ (21,061,602)	\$ 30,092,226
Liabilities					
Reserve for losses and loss adjustment expenses	\$ —	\$ —	\$ 14,337,192	\$ (4,040,371)	\$ 10,296,821
Unearned premiums	—	—	4,891,330	(1,260,071)	3,631,259
Reinsurance balances payable	—	—	959,221	(637,936)	321,285
Contractholder payables	—	—	1,766,340	—	1,766,340
Collateral held for insured obligations	—	—	327,161	—	327,161
Senior notes	296,979	494,548	940,883	—	1,732,410
Revolving credit agreement borrowings	100,000	—	634,961	—	734,961
Due to subsidiaries and affiliates	2,044	541,400	1,378,384	(1,921,828)	—
Other liabilities	14,825	61,055	1,876,454	(350,019)	1,602,315
Total liabilities	413,848	1,097,003	27,111,926	(8,210,225)	20,412,552
Redeemable noncontrolling interests	—	—	220,344	(14,700)	205,644
Shareholders' Equity					
Total shareholders' equity available to Arch	8,605,844	2,938,921	9,897,756	(12,836,677)	8,605,844
Non-redeemable noncontrolling interests	—	—	868,186	—	868,186
Total shareholders' equity	8,605,844	2,938,921	10,765,942	(12,836,677)	9,474,030
Total liabilities, noncontrolling interests and shareholders' equity	\$ 9,019,692	\$ 4,035,924	\$ 38,098,212	\$ (21,061,602)	\$ 30,092,226

ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES
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Condensed Consolidating Balance Sheet	December 31, 2016				
	ACGL (Parent Guarantor)	Arch-U.S. (Subsidiary Issuer)	Other ACGL Subsidiaries	Consolidating Adjustments and Eliminations	ACGL Consolidated
Assets					
Total investments	\$ 2,612	\$ 41,672	\$ 19,690,067	\$ (14,700)	\$ 19,719,651
Cash	1,687	71,955	769,300	—	842,942
Investments in subsidiaries	8,660,586	3,716,681	—	(12,377,267)	—
Due from subsidiaries and affiliates	14,297	51,298	1,866,681	(1,932,276)	—
Premiums receivable	—	—	1,579,865	(507,430)	1,072,435
Reinsurance recoverable on unpaid and paid losses and loss adjustment expenses	—	—	6,114,518	(4,000,380)	2,114,138
Contractholder receivables	—	—	1,717,436	—	1,717,436
Ceded unearned premiums	—	—	1,985,311	(1,125,744)	859,567
Deferred acquisition costs	—	—	577,461	(129,901)	447,560
Goodwill and intangible assets	—	—	781,553	—	781,553
Other assets	15,725	49,244	1,901,786	(149,928)	1,816,827
Total assets	<u>\$ 8,694,907</u>	<u>\$ 3,930,850</u>	<u>\$ 36,983,978</u>	<u>\$ (20,237,626)</u>	<u>\$ 29,372,109</u>
Liabilities					
Reserve for losses and loss adjustment expenses	\$ —	\$ —	\$ 14,164,191	\$ (3,963,231)	\$ 10,200,960
Unearned premiums	—	—	4,532,614	(1,125,744)	3,406,870
Reinsurance balances payable	—	—	807,837	(507,430)	300,407
Contractholder payables	—	—	1,717,436	—	1,717,436
Collateral held for insured obligations	—	—	301,406	—	301,406
Deposit accounting liabilities	—	—	22,150	—	22,150
Senior notes	296,957	494,525	940,776	—	1,732,258
Revolving credit agreement borrowings	100,000	—	656,650	—	756,650
Due to subsidiaries and affiliates	26,270	535,584	1,370,422	(1,932,276)	—
Other liabilities	17,962	54,823	1,867,040	(316,978)	1,622,847
Total liabilities	<u>441,189</u>	<u>1,084,932</u>	<u>26,380,522</u>	<u>(7,845,659)</u>	<u>20,060,984</u>
Redeemable noncontrolling interests	—	—	220,253	(14,700)	205,553
Shareholders' Equity					
Total shareholders' equity available to Arch	8,253,718	2,845,918	9,531,349	(12,377,267)	8,253,718
Non-redeemable noncontrolling interests	—	—	851,854	—	851,854
Total shareholders' equity	<u>8,253,718</u>	<u>2,845,918</u>	<u>10,383,203</u>	<u>(12,377,267)</u>	<u>9,105,572</u>
Total liabilities, noncontrolling interests and shareholders' equity	<u>\$ 8,694,907</u>	<u>\$ 3,930,850</u>	<u>\$ 36,983,978</u>	<u>\$ (20,237,626)</u>	<u>\$ 29,372,109</u>

ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES
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Condensed Consolidating Statement of Income and Comprehensive Income	Three Months Ended March 31, 2017				
	ACGL (Parent Guarantor)	Arch-U.S. (Subsidiary Issuer)	Other ACGL Subsidiaries	Consolidating Adjustments and Eliminations	ACGL Consolidated
Revenues					
Net premiums earned	\$ —	\$ —	\$ 1,117,017	\$ —	\$ 1,117,017
Net investment income	5	816	137,981	(20,928)	117,874
Net realized gains (losses)	—	—	34,153	—	34,153
Net impairment losses recognized in earnings	—	—	(1,807)	—	(1,807)
Other underwriting income	—	—	4,633	—	4,633
Equity in net income (loss) of investment funds accounted for using the equity method	—	—	48,088	—	48,088
Other income (loss)	171	—	(953)	—	(782)
Total revenues	176	816	1,339,112	(20,928)	1,319,176
Expenses					
Losses and loss adjustment expenses	—	—	552,570	—	552,570
Acquisition expenses	—	—	182,289	—	182,289
Other operating expenses	—	—	174,719	—	174,719
Corporate expenses	17,247	2,008	8,537	—	27,792
Amortization of intangible assets	—	—	31,294	—	31,294
Interest expense	6,015	11,930	31,336	(20,605)	28,676
Net foreign exchange (gains) losses	—	—	15,348	4,056	19,404
Total expenses	23,262	13,938	996,093	(16,549)	1,016,744
Income (loss) before income taxes	(23,086)	(13,122)	343,019	(4,379)	302,432
Income tax (expense) benefit	—	4,873	(33,270)	—	(28,397)
Income (loss) before equity in net income of subsidiaries	(23,086)	(8,249)	309,749	(4,379)	274,035
Equity in net income of subsidiaries	276,213	77,373	—	(353,586)	—
Net income	253,127	69,124	309,749	(357,965)	274,035
Net (income) loss attributable to noncontrolling interests	—	—	(21,231)	323	(20,908)
Net income available to Arch	253,127	69,124	288,518	(357,642)	253,127
Preferred dividends	(11,218)	—	—	—	(11,218)
Net income available to Arch common shareholders	\$ 241,909	\$ 69,124	\$ 288,518	\$ (357,642)	\$ 241,909
Comprehensive income (loss) available to Arch	\$ 351,991	\$ 87,781	\$ 224,173	\$ (311,954)	\$ 351,991

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Three Months Ended March 31, 2016					
Condensed Consolidating Statement of Income and Comprehensive Income	ACGL (Parent Guarantor)	Arch-U.S. (Subsidiary Issuer)	Other ACGL Subsidiaries	Consolidating Adjustments and Eliminations	ACGL Consolidated
Revenues					
Net premiums earned	\$ —	\$ —	\$ 951,579	\$ —	\$ 951,579
Net investment income	1	773	100,261	(7,300)	93,735
Net realized gains (losses)	—	—	37,324	—	37,324
Net impairment losses recognized in earnings	—	—	(7,639)	—	(7,639)
Other underwriting income	—	—	5,319	(272)	5,047
Equity in net income (loss) of investment funds accounted for using the equity method	—	—	6,655	—	6,655
Other income (loss)	206	—	(231)	—	(25)
Total revenues	207	773	1,093,268	(7,572)	1,086,676
Expenses					
Losses and loss adjustment expenses	—	—	522,949	—	522,949
Acquisition expenses	—	—	167,838	—	167,838
Other operating expenses	—	—	150,148	—	150,148
Corporate expenses	9,355	582	(554)	—	9,383
Amortization of intangible assets	—	—	4,748	—	4,748
Interest expense	5,934	6,672	10,752	(7,251)	16,107
Net foreign exchange (gains) losses	—	—	16,495	7,071	23,566
Total expenses	15,289	7,254	872,376	(180)	894,739
Income (loss) before income taxes	(15,082)	(6,481)	220,892	(7,392)	191,937
Income tax (expense) benefit	—	2,244	(18,554)	—	(16,310)
Income (loss) before equity in net income of subsidiaries	(15,082)	(4,237)	202,338	(7,392)	175,627
Equity in net income of subsidiaries	169,880	22,866	—	(192,746)	—
Net income	154,798	18,629	202,338	(200,138)	175,627
Net (income) loss attributable to noncontrolling interests	—	—	(21,150)	321	(20,829)
Net income available to Arch	154,798	18,629	181,188	(199,817)	154,798
Preferred dividends	(5,484)	—	—	—	(5,484)
Net income available to Arch common shareholders	\$ 149,314	\$ 18,629	\$ 181,188	\$ (199,817)	\$ 149,314
Comprehensive income (loss) available to Arch	\$ 272,929	\$ 58,649	\$ 292,251	\$ (350,900)	\$ 272,929

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

Condensed Consolidating Statement of Cash Flows	Three Months Ended March 31, 2017				
	ACGL (Parent Guarantor)	Arch-U.S. (Subsidiary Issuer)	Other ACGL Subsidiaries	Consolidating Adjustments and Eliminations	ACGL Consolidated
Operating Activities					
Net Cash Provided By (Used For) Operating Activities	\$ 701	\$ (3,257)	\$ 264,088	\$ (53,414)	\$ 208,118
Investing Activities					
Purchases of fixed maturity investments	—	—	(10,476,918)	—	(10,476,918)
Purchases of equity securities	—	—	(143,833)	—	(143,833)
Purchases of other investments	—	—	(427,039)	—	(427,039)
Proceeds from the sales of fixed maturity investments	—	—	10,386,746	—	10,386,746
Proceeds from the sales of equity securities	—	—	253,347	—	253,347
Proceeds from the sales, redemptions and maturities of other investments	—	—	317,518	—	317,518
Proceeds from redemptions and maturities of fixed maturity investments	—	—	174,718	—	174,718
Net settlements of derivative instruments	—	—	(3,921)	—	(3,921)
Net (purchases) sales of short-term investments	2,356	(43)	(400,164)	—	(397,851)
Change in cash collateral related to securities lending	—	—	180,946	—	180,946
Contributions to subsidiaries	—	(25,900)	(60,050)	85,950	—
Purchases of fixed assets	—	(10)	(5,184)	—	(5,194)
Other	20,641	—	19,603	(20,641)	19,603
Net Cash Provided By (Used For) Investing Activities	22,997	(25,953)	(184,231)	65,309	(121,878)
Financing Activities					
Proceeds from common shares issued, net	(3,990)	—	85,950	(85,950)	(3,990)
Proceeds from borrowings	—	—	—	—	—
Repayments of borrowings	—	—	(22,000)	—	(22,000)
Change in cash collateral related to securities lending	—	—	(180,946)	—	(180,946)
Dividends paid to redeemable noncontrolling interests	—	—	(4,816)	319	(4,497)
Dividends paid to parent (1)	—	—	(53,095)	53,095	—
Other	—	—	(25,659)	20,641	(5,018)
Preferred dividends paid	(11,218)	—	—	—	(11,218)
Net Cash Provided By (Used For) Financing Activities	(15,208)	—	(200,566)	(11,895)	(227,669)
Effects of exchange rates changes on foreign currency cash	—	—	2,241	—	2,241
Increase (decrease) in cash	8,490	(29,210)	(118,468)	—	(139,188)
Cash beginning of year	1,687	71,955	769,300	—	842,942
Cash end of period	\$ 10,177	\$ 42,745	\$ 650,832	\$ —	\$ 703,754

(1) Dividends paid are included in net cash provided by (used for) operating activities in the ACGL (Parent Guarantor) and/or Arch-U.S. (Subsidiary Issuer) columns.

ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

Condensed Consolidating Statement of Cash Flows	Three Months Ended March 31, 2016				
	ACGL (Parent Guarantor)	Arch-U.S. (Subsidiary Issuer)	Other ACGL Subsidiaries	Consolidating Adjustments and Eliminations	ACGL Consolidated
Operating Activities					
Net Cash Provided By (Used For) Operating Activities	\$ 83,892	\$ (4,740)	\$ 340,558	\$ (97,167)	\$ 322,543
Investing Activities					
Purchases of fixed maturity investments	—	—	(8,133,537)	—	(8,133,537)
Purchases of equity securities	—	—	(128,263)	—	(128,263)
Purchases of other investments	—	—	(305,198)	—	(305,198)
Proceeds from the sales of fixed maturity investments	—	—	7,827,536	—	7,827,536
Proceeds from the sales of equity securities	—	—	216,012	—	216,012
Proceeds from the sales, redemptions and maturities of other investments	—	—	211,125	—	211,125
Proceeds from redemptions and maturities of fixed maturity investments	—	—	163,894	—	163,894
Net settlements of derivative instruments	—	—	21,091	—	21,091
Net (purchases) sales of short-term investments	(60)	(30)	(65,504)	—	(65,594)
Change in cash collateral related to securities lending	—	—	(43,118)	—	(43,118)
Contributions to subsidiaries	(3,300)	—	(2,779)	6,079	—
Purchases of fixed assets	(8)	—	(3,944)	—	(3,952)
Other	—	—	6,737	—	6,737
Net Cash Provided By (Used For) Investing Activities	(3,368)	(30)	(235,948)	6,079	(233,267)
Financing Activities					
Purchases of common shares under share repurchase program	(75,256)	—	—	—	(75,256)
Proceeds from common shares issued, net	202	—	6,079	(6,079)	202
Repayments of borrowings	—	—	(74,171)	—	(74,171)
Change in cash collateral related to securities lending	—	—	43,118	—	43,118
Dividends paid to redeemable noncontrolling interests	—	—	(4,816)	319	(4,497)
Dividends paid to parent (1)	—	—	(96,848)	96,848	—
Other	—	184	28,931	—	29,115
Preferred dividends paid	(5,484)	—	—	—	(5,484)
Net Cash Provided By (Used For) Financing Activities	(80,538)	184	(97,707)	91,088	(86,973)
Effects of exchange rates changes on foreign currency cash	—	—	2,332	—	2,332
Increase (decrease) in cash	(14)	(4,586)	9,235	—	4,635
Cash beginning of year	6,809	17,023	529,494	—	553,326
Cash end of period	\$ 6,795	\$ 12,437	\$ 538,729	\$ —	\$ 557,961

(1) Dividends paid are included in net cash provided by (used for) operating activities in the ACGL (Parent Guarantor) and/or Arch-U.S. (Subsidiary Issuer) columns.

ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

14. Income Taxes

The Company's income tax provision on income before income taxes resulted in an expense of 9.4% for the three months ended March 31, 2017, compared to an expense of 8.5% for the 2016 period. 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. For interim reporting purposes, the Company has calculated its effective tax rate for the full year of 2017 by treating any excess tax benefits that arise from the accounting for stock based compensation as a discrete item. As such, this amount is not included when projecting the Company's full year effective tax rate but rather is accounted for at the U.S. Federal statutory rate of 35% after applying the projected full year effective tax rate to actual three-month results before the discrete item. The impact of the discrete item resulted in a benefit of 0.8% for the three months ended March 31, 2017.

The Company had a net deferred tax asset of \$227.5 million at March 31, 2017, compared to \$221.2 million at December 31, 2016. In addition, the Company paid \$0.7 million and \$2.5 million of income taxes for the three months ended March 31, 2017 and 2016, respectively.

15. 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 March 31, 2017, 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.

16. Transactions with Related Parties

Kewsong Lee, a director of ACGL, is a Managing Director and Deputy Chief Investment Officer for Corporate Private Equity of The Carlyle Group ("Carlyle"). As part of its investment philosophy, the Company invests a portion of its investment portfolio in alternative investment funds. As of March 31, 2017, the total value of the Company's investments in funds or other investments managed by Carlyle was approximately \$200.5 million, and the Company had aggregate unfunded commitments to funds managed by Carlyle of \$510.0 million. The Company may make additional commitments to funds managed by Carlyle from time to time. During the three months ended March 31, 2017 and 2016, the Company made aggregate capital contributions to funds managed by Carlyle of \$7.9 million and \$40.1 million, respectively, and received aggregate cash distributions from funds managed by Carlyle of \$23.3 million and \$8.8 million, respectively.

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, 2016 (“2016 Form 10-K”). In addition, readers should review “Risk Factors” set forth in Item 1A of Part I of our 2016 Form 10-K. Tabular amounts are in U.S. Dollars in thousands, except share amounts, unless otherwise noted.

Arch Capital Group Ltd. (“ACGL” and, together with its subsidiaries, “we” or “us”) is a Bermuda public limited liability company with approximately \$10.84 billion in capital at March 31, 2017 and, through operations in Bermuda, the United States, Europe and Canada, writes specialty lines of property and casualty insurance and reinsurance, as well as mortgage insurance and reinsurance, on a worldwide basis.

CURRENT OUTLOOK

The broad property casualty insurance market environment continues to be competitive in our business, consistent with our view in prior quarters, reflecting slight deterioration in rates across certain sectors. This has led to flat or lower writings in certain property casualty lines in the 2017 first quarter . With the continued low interest rate environment, additional price increases are needed in many lines in order for us to achieve our return requirements. Our underwriting teams continue to execute a disciplined strategy by emphasizing small and medium-sized accounts over large accounts and by utilizing reinsurance purchases to reduce volatility on large account, high capacity business.

Our mortgage segment continues to experience favorable market conditions. The mortgage segment includes our U.S. primary mortgage insurance operations, international mortgage insurance and reinsurance operations as well as government sponsored enterprise (“GSE”) credit-risk sharing transactions. On December 31, 2016, we completed the acquisition of United Guaranty Corporation, a North Carolina corporation (“UGC”) from American International Group, Inc. (“AIG”). The acquisition of UGC expanded our U.S. primary mortgage insurance operations by combining UGC’s position as the market leader in the U.S. private mortgage insurance industry with Arch’s financial strength and history of innovation.

Our objective is to achieve an average operating return on average equity of 15% or greater over the insurance cycle,

which we believe to be an attractive return to our common shareholders given the risks we assume. We continue to look for opportunities to find acceptable books of business to underwrite without sacrificing underwriting discipline and continue to write a portion of our overall book in catastrophe-exposed business which has the potential to increase the volatility of our operating results.

Changing economic conditions could have a material impact on the frequency and severity of claims and, therefore, could negatively impact our underwriting returns. In addition, volatility in the financial markets could continue to significantly affect our investment returns, reported results and shareholders’ equity. We consider the potential impact of economic trends in the estimation process for establishing unpaid losses and loss adjustment expenses and in determining our investment strategies. In addition, weakness of the U.S., European countries and other key economies, projected budget deficits for the U.S., European countries and other governments and the consequences associated with potential downgrades of securities of the U.S., European countries and other governments by credit rating agencies is inherently unpredictable and could have a material adverse effect on financial markets and economic conditions in the U.S. and throughout the world. In turn, this could have a material adverse effect on our business, financial condition and results of operations and, in particular, this could have a material adverse effect on the value and liquidity of securities in our investment portfolio.

NATURAL CATASTROPHE RISK

We monitor our natural catastrophe risk globally for all perils and regions, in each case, where we believe there is significant exposure. 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. Currently, we seek to limit our 1-in-250 year return period net probable maximum pre-tax loss from a severe catastrophic event in any geographic zone to approximately 25% of total shareholders’ equity available to Arch. We reserve the right to change this threshold at any time.

Based on in-force exposure estimated as of April 1, 2017 , our modeled peak zone catastrophe exposure was a windstorm affecting the Northeastern U.S., with a net probable maximum pre-tax loss of \$473 million , followed by windstorms affecting Florida Tri-County and the Gulf of Mexico regions with net probable maximum pre-tax losses of \$386 million and \$383 million , 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 April 1, 2017, our modeled peak zone earthquake exposure (Los Angeles earthquake) represented approximately 63% of our peak zone catastrophe exposure, and our modeled peak zone international exposure (Japan earthquake) was substantially less than both our peak zone windstorm and earthquake exposures.

Net probable maximum pre-tax loss estimates are net of expected reinsurance recoveries, before income tax and before excess reinsurance reinstatement premiums. 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 loss estimates include clash estimates from other zones. The loss estimates shown above 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 a net loss greater than 25% of total shareholders' equity available to Arch from one or more catastrophic events due to several factors, including 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. Actual losses may also 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—Natural and Man-Made Catastrophic Events" in our 2016 Form 10-K.

FINANCIAL MEASURES

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

Book Value per Common Share

Book value per common share represents total common shareholders' equity available to Arch divided by the number of common shares outstanding. Management uses growth in book value per common share as a key measure of the value generated for our common shareholders each period and believes that book value per common share is the key driver of ACGL's share price over time. Book value per common 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 common share depending on the purchase price.

Book value per common share was \$57.69 at March 31, 2017, compared to \$55.19 at December 31, 2016 and \$49.55 at March 31, 2016. The 4.5% increase in the 2017 first quarter and the 16.4% increase over the trailing twelve months reflected strong underwriting and investment returns.

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, net impairment losses recognized in earnings, equity in net income or loss of investment funds accounted for using the equity method, net foreign exchange gains or losses, UGC 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 Operating ROAE was 10.3% for the 2017 first quarter, compared to 9.8% for the 2016 first quarter, reflecting strong underwriting and investment returns.

Total Return on Investments

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 and losses and the change in unrealized gains and losses generated by Arch's investment portfolio. Total return is calculated on a pre-tax basis and before investment expenses, excludes amounts reflected in the 'other' segment, 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
2017 First Quarter	1.70%	1.49%
2016 First Quarter	1.82%	2.43%

Excluding the effects of foreign exchange, total return was 1.64% for the 2017 first quarter. Total return for the 2017 first quarter reflected strong returns on alternative investments and non-investment grade fixed income securities.

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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, unlike many master indices that change based on the size of their constituent indices, a relatively stable basket of investable indices. At March 31, 2017, the benchmark return index had an average credit quality of “Aa2” by Moody’s Investors Service (“Moody’s”), and an estimated duration of 3.69 years.

The benchmark return index included weightings to the following indices, which are primarily from The Bank of America Merrill Lynch (“BoAML”):

	%
BoAML 1-10 Year U.S. Corporate & All Yankees, A - AAA Rated Index	20.00%
BoAML 1-5 Year U.S. Treasury Index	13.00
BoAML 1-10 Year U.S. Municipal Securities Index	17.00
BoAML 3-5 Year Fixed Rate Asset Backed Securities Index	7.00
BoAML 5-10 Year U.S. Treasury Index	5.00
Barclays CMBS Inv. Grade, AAA Rated Index	5.00
MSCI All Country World Gross Total Return Index	5.00
BoAML German Government Index	4.50
BoAML U.S. Mortgage Backed Securities Index	4.00
Hedge Fund Research HFRX Fixed Income Credit Index	2.50
Hedge Fund Research HFRX Equal Weighted Strategies	2.50
BoAML U.S. High Yield Constrained Index	2.50
BoAML 1-5 Year U.K. Gilt Index	2.50
BoAML 1-10 Year Australian Governments Index	2.50
S&P Leveraged Loan Index	2.50
BoAML 0-3 Month U.S. Treasury Bill Index	2.00
BoAML 1-5 Year Canada Government Index	1.50
BoAML U.K. Gilt 25+ Year Index	0.50
BoAML 20+ Year Canada Government Index	0.50
Total	100.00%

COMMENT ON NON-GAAP FINANCIAL MEASURES

Throughout this filing, we present our operations in the way 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, net impairment losses recognized

in earnings, equity in net income or loss of investment funds accounted for using the equity method, net foreign exchange gains or losses and UGC transaction costs and other and 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 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, net impairment losses recognized in earnings, equity in net income or loss of investment funds accounted for using the equity method, net foreign exchange gains or losses and UGC 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, net impairment losses recognized in earnings, 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 investment gains or losses, the recognition of the change in the carrying value of investments accounted for using the fair value option in net realized gains or losses, the recognition of net impairment losses, the recognition of equity in net income or loss of investment funds accounted for using the equity method and the recognition of foreign exchange gains or losses are independent of the insurance underwriting process and result, in large part, from general economic and financial market conditions. Furthermore, 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, net impairment losses recognized in earnings on our investments represent other-than-temporary declines in expected recovery values on securities without actual realization. The use of the equity method on certain of our investments in certain funds that invest in fixed maturity securities 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 we account for our other fixed maturity securities 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. UGC transaction costs and other include advisory, financing, legal, severance, incentive compensation and other transaction costs related to the UGC acquisition. The Company believes that UGC transaction costs and other, due to their non-recurring nature, are not indicative of the

performance of, or trends in, the Company's business performance. Due to these reasons, we exclude net realized gains or losses, net impairment losses recognized in earnings, equity in net income or loss of investment funds accounted for using the equity method, net foreign exchange gains or losses and UGC transaction costs and other from the calculation of after-tax operating income available to Arch common shareholders.

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 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 and a subtotal of underwriting income or loss before the contribution from the 'other' segment. 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 incorporate items included in our corporate (non-underwriting) segment. While these measures are presented in Note 5, "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 and a subtotal before the contribution from the 'other' segment, in accordance with Regulation G, is shown in Note 5, "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 and, accordingly, investment income and other non-underwriting related items are not allocated to each underwriting segment. For the 'other' segment, performance is measured based on net income or loss.

Along with consolidated underwriting income, we provide a subtotal of underwriting income or loss before the contribution

from the 'other' segment. Pursuant to generally accepted accounting principles, Watford Re is considered a variable interest entity and we concluded that we are the primary beneficiary of Watford Re. As such, we consolidate the results of Watford Re in our consolidated financial statements, although we only own approximately 11% of Watford Re's common equity. Watford Re has its own management and board of directors that is responsible for its overall profitability. In addition, we do not guarantee or provide credit support for Watford Re. Since Watford Re is an independent company, the assets of Watford Re can be used only to settle obligations of Watford Re and Watford Re is solely responsible for its own liabilities and commitments. Our financial exposure to Watford Re is limited to our investment in Watford Re's common and preferred shares and counterparty credit risk (mitigated by collateral) arising from the reinsurance transactions. We believe that presenting certain information excluding the 'other' segment enables investors and other users of our financial information to analyze our performance in a manner similar to how our management analyzes performance.

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 and losses and the change in unrealized gains and losses generated by Arch's investment portfolio. Total return is calculated on a pre-tax basis and before investment expenses, excludes amounts reflected in the 'other' segment, 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 on the capital held in the business, and compares the return generated by our investment portfolio against benchmark returns which we measured our portfolio against during the periods.

RESULTS OF OPERATIONS

The following table summarizes our consolidated financial data, including a reconciliation of net income available to Arch common shareholders to after-tax operating income available to Arch common shareholders. Each line item reflects the impact of our approximate 11% ownership of Watford Re's common equity.

	Three Months Ended	
	March 31,	
	2017	2016
Net income available to Arch common shareholders	\$ 241,909	\$ 149,314
Net realized (gains) losses	(29,134)	(32,464)
Net impairment losses recognized in earnings	1,807	7,639
Equity in net (income) loss of investment funds accounted for using the equity method	(48,088)	(6,655)
Net foreign exchange (gains) losses	19,796	22,209
UGC transaction costs and other	15,584	—
Income tax (benefit) expense (1)	(3,909)	5,699
After-tax operating income available to Arch common shareholders	\$ 197,965	\$ 145,742
Beginning common shareholders' equity	\$ 7,481,163	\$ 5,841,542
Ending common shareholders' equity	7,833,289	6,050,248
Average common shareholders' equity	\$ 7,657,226	\$ 5,945,895
Annualized return on average common equity %	12.6	10.0
Annualized operating return on average common equity %	10.3	9.8

- (1) Income tax on net realized gains or losses, net impairment losses recognized in earnings, equity in net income or loss of investment funds accounted for using the equity method, net foreign exchange gains or losses and UGC 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 — and two other operating segments — corporate (non-underwriting) and 'other.' 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 Chairman and Chief Executive Officer, the President and Chief Operating Officer, and the Chief Financial Officer of ACG. The chief operating decision makers 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 March 31,		
	2017	2016	% Change
Gross premiums written	\$ 782,281	\$ 798,553	(2.0)
Premiums ceded	(234,095)	(248,789)	
Net premiums written	548,186	549,764	(0.3)
Change in unearned premiums	(42,540)	(36,675)	
Net premiums earned	505,646	513,089	(1.5)
Other underwriting income	—	—	
Losses and loss adjustment expenses	(332,641)	(323,609)	
Acquisition expenses	(74,868)	(74,348)	
Other operating expenses	(88,126)	(85,058)	
Underwriting income	\$ 10,011	\$ 30,074	(66.7)
Underwriting Ratios			% Point Change
Loss ratio	65.8%	63.1%	2.7
Acquisition expense ratio	14.8%	14.5%	0.3
Other operating expense ratio	17.4%	16.6%	0.8
Combined ratio	98.0%	94.2%	3.8

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 to middle and large accounts in the construction industry and a wide range of products for middle and large national accounts, specializing in loss sensitive primary casualty insurance programs (including large deductible, self-insured retention and retrospectively rated programs).
- *Excess and surplus casualty:* primary and excess casualty insurance coverages, including middle market energy business, and contract binding, which primarily provides casualty coverage through a network of appointed agents to small and medium risks.
- *Lenders products:* 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.

- *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 and medical professional and general liability insurance coverages for the healthcare industry. The business is predominately written on a claims-made basis.

- *Programs:* primarily package policies, underwriting workers' compensation and umbrella liability business in support of desirable package programs, targeting program managers with unique expertise and niche products offering general liability, commercial automobile, inland marine and property business with minimal catastrophe exposure.

- *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, war, specie and liability. Aviation and stand alone terrorism are also offered.

- *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.

- *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 and commercial surety coverages, including contract bonds (payment and performance bonds) primarily for medium and large contractors and commercial surety bonds for Fortune 1,000 companies and smaller transaction business programs.

Premiums Written .

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

	Three Months Ended March 31,			
	2017		2016	
	Amount	%	Amount	%
Professional lines	\$ 108,468	19.8	\$ 109,467	19.9
Construction and national accounts	99,977	18.2	104,474	19.0
Programs	99,957	18.2	89,784	16.3
Travel, accident and health	65,528	12.0	57,263	10.4
Excess and surplus casualty	45,832	8.4	53,657	9.8
Property, energy, marine and aviation	40,104	7.3	49,975	9.1
Lenders products	24,705	4.5	24,784	4.5
Other	63,615	11.6	60,360	11.0
Total	\$ 548,186	100.0	\$ 549,764	100.0

2017 First Quarter versus 2016 First Quarter . Gross premiums written by the insurance segment in the 2017 first quarter were 2.0% lower than in the 2016 first quarter , while net premiums written were 0.3% lower than in the 2016 first quarter . The decrease in net premiums written reflected reductions in property, energy, marine and aviation and excess and surplus casualty, both reflecting weak market conditions, partially offset by growth in programs and travel, accident and health. Growth in program business primarily reflected the impact of two new programs while the increase in travel, accident and health reflected continued expansion in existing travel accounts.

Net Premiums Earned .

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

	Three Months Ended March 31,			
	2017		2016	
	Amount	%	Amount	%
Professional lines	\$ 108,638	21.5	\$ 104,944	20.5
Construction and national accounts	77,423	15.3	77,043	15.0
Programs	85,180	16.8	98,501	19.2
Travel, accident and health	58,481	11.6	47,545	9.3
Excess and surplus casualty	51,007	10.1	54,965	10.7
Property, energy, marine and aviation	38,078	7.5	49,037	9.6
Lenders products	24,099	4.8	24,402	4.8
Other	62,740	12.4	56,652	11.0
Total	\$ 505,646	100.0	\$ 513,089	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 in the 2017 first quarter were 1.5% lower than in the 2016 first quarter .

Losses and Loss Adjustment Expenses .

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

	Three Months Ended March 31,	
	2017	2016
Current year	66.2 %	64.3 %
Prior period reserve development	(0.4)%	(1.2)%
Loss ratio	65.8 %	63.1 %

Current Year Loss Ratio .

The insurance segment's current year loss ratio in the 2017 first quarter was 1.9 points higher than in the 2016 first quarter . The 2017 first quarter loss ratio reflected 0.5 points of current year catastrophic activity, compared to 0.1 points in the 2016 first quarter . The current year loss ratio for the 2017 first quarter reflected, in part, from deteriorating market conditions and changes in the mix of business.

Prior Period Reserve Development .

The insurance segment's net favorable development was \$2.1 million , or 0.4 points, for the 2017 first quarter , compared to \$6.2 million , or 1.2 points, for the 2016 first quarter . See note 6 , "Reserve for Losses and Loss Adjustment Expenses," of the notes accompanying our consolidated financial statements for information about the insurance segment's prior year reserve development.

Underwriting Expenses .

2017 First Quarter versus 2016 First Quarter : The insurance segment's underwriting expense ratio was 32.2% in the 2017 first quarter , compared to 31.1% in the 2016 first quarter . The comparison of the underwriting expense ratios and the underlying acquisition expense and other operating expense ratios reflects changes in the level of reinsurance ceded on a quota share basis and changes in the mix of business.

Reinsurance Segment

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

	Three Months Ended March 31,		
	2017	2016	% Change
Gross premiums written	\$ 475,782	\$ 481,390	(1.2)
Premiums ceded	(166,092)	(160,566)	
Net premiums written	309,690	320,824	(3.5)
Change in unearned premiums	(64,839)	(59,616)	
Net premiums earned	244,851	261,208	(6.3)
Other underwriting income	(306)	325	
Losses and loss adjustment expenses	(105,454)	(111,598)	
Acquisition expenses	(46,147)	(54,758)	
Other operating expenses	(37,533)	(36,258)	
Underwriting income	\$ 55,411	\$ 58,919	(6.0)
			% Point Change
Underwriting Ratios			
Loss ratio	43.1%	42.7%	0.4
Acquisition expense ratio	18.8%	21.0%	(2.2)
Other operating expense ratio	15.3%	13.9%	1.4
Combined ratio	77.2%	77.6%	(0.4)

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

- *Casualty:* provides coverage to ceding company clients on third party liability and workers' compensation exposures from ceding company clients, primarily on a treaty basis. Exposures include, among others, executive assurance, professional liability, workers' compensation, excess and umbrella liability, excess motor and healthcare business.
- *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 to ceding company clients for proportional motor and other lines including surety, accident and health, workers' compensation catastrophe, agriculture, trade credit and political risk.
- *Property catastrophe:* provides protection for most catastrophic losses that are covered in the underlying policies written by reinsureds, including hurricane, earthquake, flood, tornado, hail and fire, and coverage for other perils on a case-by-case basis. Property catastrophe reinsurance provides coverage on an excess of loss basis when aggregate losses and loss adjustment expense from a single occurrence of a covered peril exceed the retention specified in the contract.

- *Property excluding property catastrophe:* provides coverage for both personal lines and 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 both a proportional and excess of loss basis. In addition, facultative business is written which focuses on commercial property risks on an excess of loss basis.

- *Other:* includes life reinsurance business on both a proportional and non-proportional basis, casualty clash business and, in limited instances, non-traditional business which is intended to provide insurers with risk management solutions that complement traditional reinsurance.

Premiums Written .

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

	Three Months Ended March 31,			
	2017		2016	
	Amount	%	Amount	%
Other specialty	\$ 114,418	36.9	\$ 100,820	31.4
Casualty	110,620	35.7	126,483	39.4
Property excluding property catastrophe	75,387	24.3	73,723	23.0
Property catastrophe	(7,477)	(2.4)	(2,295)	(0.7)
Marine and aviation	9,541	3.1	17,540	5.5
Other	7,201	2.3	4,553	1.4
Total	\$ 309,690	100.0	\$ 320,824	100.0
Pro rata	\$ 129,016	41.7	\$ 112,209	35.0
Excess of loss	180,674	58.3	208,615	65.0
Total	\$ 309,690	100.0	\$ 320,824	100.0

2017 First Quarter versus 2016 First Quarter . Gross premiums written by the reinsurance segment in the 2017 first quarter were 1.2% lower than in the 2016 first quarter , while net premiums written were 3.5% lower than in the 2016 first quarter . The lower level of net premiums written in the 2017 first quarter reflected decreases in casualty, marine and aviation and property catastrophe lines. The reduction in casualty business and marine and aviation business both reflected share decreases and non-renewals. Property catastrophe net premiums written in both periods reflects the impact of retrocessional portfolio transactions, with a higher level of cessions in the 2017 first quarter. Such amounts were partially offset by growth in other specialty business.

Net Premiums Earned .

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

	Three Months Ended March 31,			
	2017		2016	
	Amount	%	Amount	%
Other specialty	\$ 69,965	28.6	\$ 74,249	28.4
Casualty	72,968	29.8	76,053	29.1
Property excluding property catastrophe	69,852	28.5	71,953	27.5
Property catastrophe	16,177	6.6	17,953	6.9
Marine and aviation	9,490	3.9	17,878	6.8
Other	6,399	2.6	3,122	1.2
Total	\$ 244,851	100.0	\$ 261,208	100.0
Pro rata	\$ 133,092	54.4	\$ 139,693	53.5
Excess of loss	111,759	45.6	121,515	46.5
Total	\$ 244,851	100.0	\$ 261,208	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 for the 2017 first quarter were 6.3% lower than in the 2016 first quarter . Net premiums earned reflects changes in net premiums written over the previous five quarters.

Losses and Loss Adjustment Expenses .

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

	Three Months Ended March 31,	
	2017	2016
Current year	66.5 %	60.8 %
Prior period reserve development	(23.4)%	(18.1)%
Loss ratio	43.1 %	42.7 %

Current Year Loss Ratio .

The reinsurance segment's current year loss ratio in the 2017 first quarter was 5.7 points higher than in the 2016 first quarter . The 2017 first quarter loss ratio reflected 4.0 points of current year catastrophic activity, compared to 1.4 points in the 2016 first quarter . The balance of the change in the 2017 first quarter loss ratio resulted, in part, from a higher level of large loss activity and changes in the mix of business.

Prior Period Reserve Development .

The reinsurance segment's net favorable development was \$57.2 million , or 23.4 points, for the 2017 first quarter , compared to \$47.4 million , or 18.1 points, for the 2016 first quarter . See note 6 , "Reserve for Losses and Loss Adjustment Expenses," of the notes accompanying our consolidated financial statements for information about the reinsurance segment's prior year reserve development.

Underwriting Expenses .

2017 First Quarter versus 2016 First Quarter : The underwriting expense ratio for the reinsurance segment was 34.1% in the 2017 first quarter , compared to 34.9% in the 2016 first quarter . The acquisition expense ratio for the 2017 first quarter was 18.8% , compared to 21.0% for the 2016 first quarter . The operating expense ratio for the 2017 first quarter was 15.3% , compared to 13.9% in the 2016 first quarter .

Mortgage Segment

The following tables set forth our mortgage segment's underwriting results. On December 31, 2016, we completed the acquisition of UGC. As such, the 2017 first quarter results reflect the combination of Arch and UGC while the 2016 first quarter does not reflect UGC activity.

	Three Months Ended March 31,		
	2017	2016	% Change
Gross premiums written	\$ 348,623	\$ 111,280	213.3
Premiums ceded	(73,925)	(4,767)	
Net premiums written	274,698	106,513	157.9
Change in unearned premiums	(30,175)	(44,748)	
Net premiums earned	244,523	61,765	295.9
Other underwriting income	4,123	3,793	
Losses and loss adjustment expenses	(29,065)	(8,629)	
Acquisition expenses	(28,766)	(5,793)	
Other operating expenses	(41,870)	(23,494)	
Underwriting income	\$ 148,945	\$ 27,642	438.8
Underwriting Ratios			% Point Change
Loss ratio	11.9%	14.0%	(2.1)
Acquisition expense ratio	11.8%	9.4%	2.4
Other operating expense ratio	17.1%	38.0%	(20.9)
Combined ratio	40.8%	61.4%	(20.6)

The mortgage segment includes the results of our U.S. primary mortgage insurance operations, including Arch Mortgage Insurance Company, United Guaranty Residential Insurance Company and United Guaranty Mortgage Indemnity Company (combined "Arch MI U.S."), which 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. and Arch Mortgage Insurance Designated Activity Company are leading providers of mortgage insurance products and services to the U.S. and European markets, respectively. The mortgage segment also includes GSE credit risk-sharing transactions and mortgage reinsurance for the U.S. and Australian markets.

Premiums Written .

The following table sets forth our mortgage segment's net premiums written by client location and underwriting location (*i.e.* , where the business is underwritten):

	Three Months Ended March 31,			
	2017		2016	
	Amount	%	Amount	%
Client location:				
United States	\$ 241,136	87.8	\$ 55,803	52.4
Other	33,562	12.2	50,710	47.6
Total	\$ 274,698	100.0	\$ 106,513	100.0
Underwriting location:				
United States	\$ 216,729	78.9	\$ 35,330	33.2
Other	57,969	21.1	71,183	66.8
Total	\$ 274,698	100.0	\$ 106,513	100.0

2017 First Quarter versus 2016 First Quarter . Gross premiums written by the mortgage segment in the 2017 first quarter were 213.3% higher than in the 2016 first quarter , reflecting growth in U.S. primary business. The lower increase in net premiums written of 157.9% primarily reflected cessions to AIG under the 50% quota share reinsurance agreement, which covers 2014 to 2016 policy years on a run-off basis.

The persistency rate, which 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, of the Arch MI U.S. portfolio of mortgage loans was 76.6% at March 31, 2017 , compared to 76.1% at December 31, 2016. The higher persistency rate at March 31, 2017 reflects changes in level of mortgage refinance activity and mortgage interest rates.

Arch MI U.S. generated \$12.66 billion of new insurance written ("NIW") in the 2017 first quarter , compared to \$2.91 billion in the 2016 first quarter . NIW represents the original principal balance of all loans that received coverage during the period. Our NIW for the 2017 first quarter reflected the combination of Arch and UGC, a higher percentage of monthly premium business and a lower level of refinance activity, as detailed in the following table.

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The following table provides details on the NIW generated by Arch MI U.S.:

(U.S. Dollars in millions)

	Three Months Ended March 31,			
	2017		2016	
	Amount	%	Amount	%
Total new insurance written (NIW) (1)	\$ 12,660		\$ 2,906	
Credit quality (FICO):				
>=740	\$ 7,184	56.7	\$ 1,808	62.2
680-739	4,615	36.5	959	33.0
620-679	861	6.8	139	4.8
Total	\$ 12,660	100.0	\$ 2,906	100.0
Loan-to-value (LTV):				
95.01% and above	\$ 972	7.7	\$ 175	6.0
90.01% to 95.00%	5,985	47.3	1,233	42.4
85.01% to 90.00%	4,061	32.1	1,021	35.1
85.01% and below	1,642	13.0	477	16.4
Total	\$ 12,660	100.0	\$ 2,906	100.0
Monthly vs. single:				
Monthly	\$ 10,368	81.9	\$ 2,189	75.3
Single	2,292	18.1	717	24.7
Total	\$ 12,660	100.0	\$ 2,906	100.0
Purchase vs. refinance:				
Purchase	\$ 10,720	84.7	\$ 2,055	70.7
Refinance	1,940	15.3	851	29.3
Total	\$ 12,660	100.0	\$ 2,906	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 client location and underwriting location:

	Three Months Ended March 31,			
	2017		2016	
	Amount	%	Amount	%
Client Location:				
United States	\$ 236,031	96.5	\$ 57,132	92.5
Other	8,492	3.5	4,633	7.5
Total	\$ 244,523	100.0	\$ 61,765	100.0
Underwriting location:				
United States	\$ 208,699	85.3	\$ 32,520	52.7
Other	35,824	14.7	29,245	47.3
Total	\$ 244,523	100.0	\$ 61,765	100.0

Net premiums earned for the 2017 first quarter were higher than in the 2016 first quarter , primarily due to the UGC acquisition and growth in insurance in force for Arch MI U.S. along with a higher earned contribution from the mortgage segment's reinsurance business.

Other Underwriting Income .

Other underwriting income, which is primarily related to older GSE risk-sharing transactions receiving derivative accounting

treatment, was \$4.1 million for the 2017 first quarter , compared to \$3.8 million for the 2016 first quarter . The higher level of income for the 2017 first quarter was primarily driven by mark-to-market adjustments.

Losses and Loss Adjustment Expenses .

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

	Three Months Ended March 31,	
	2017	2016
Current year	21.5 %	18.4 %
Prior period reserve development	(9.6)%	(4.4)%
Loss ratio	11.9 %	14.0 %

Current Year Loss Ratio .

The mortgage segment's current year loss ratio was 3.1 points higher in the 2017 first quarter than in the 2016 first quarter . The current year loss ratio for the 2017 first quarter reflects the UGC acquisition and growth in insurance in force.

Prior Period Reserve Development .

The mortgage segment's net favorable development was \$23.6 million , or 9.6 points, for the 2017 first quarter , compared to \$2.7 million , or 4.4 points, for the 2016 first quarter . See note 6 , "Reserve for Losses and Loss Adjustment Expenses," of the notes accompanying our consolidated financial statements for information about the mortgage segment's prior year reserve development.

Underwriting Expenses .

2017 First Quarter versus 2016 First Quarter . The underwriting expense ratio for the mortgage segment was 28.9% in the 2017 first quarter , compared to 47.4% in the 2016 first quarter , with the improvement primarily resulting from a higher level of net premiums earned in the 2017 first quarter . The acquisition expense ratio was 11.8% for the 2017 first quarter , compared to 9.4% for the 2016 first quarter while the operating expense ratio was 17.1% for the 2017 first quarter , compared to 38.0% in the 2016 first quarter .

Corporate (Non-Underwriting) Segment

The corporate (non-underwriting) segment results include net investment income, other income (loss), corporate expenses, UGC transaction costs and other, amortization of intangible assets, interest expense, dividends on our non-cumulative preferred shares, net realized gains or losses, net impairment losses included in earnings, equity in net income or loss of investment funds accounted for using the equity method, net foreign exchange gains or losses and income taxes. Such amounts exclude the results of the 'other' segment.

Net Investment Income.

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

	Three Months Ended	
	March 31,	
	2017	2016
Fixed maturities	\$ 82,781	\$ 59,001
Term loan investments	3,114	4,858
Equity securities	2,966	3,756
Short-term investments	1,441	458
Other (1)	18,120	13,672
Gross investment income	108,422	81,745
Investment expenses (2)	(12,610)	(11,336)
Net investment income	\$ 95,812	\$ 70,409

- (1) Amounts include dividends and interest distributions on investment funds and other items.
- (2) Investment expenses were approximately 0.28% of average invested assets for the 2017 first quarter, compared to 0.33% for the 2016 first quarter.

The 2017 first quarter net investment income reflected income on the acquired UGC portfolio and higher returns on fund investments. The pre-tax investment income yield, calculated based on amortized cost and on an annualized basis, was 2.13% for the 2017 first quarter, compared to 2.13% for the 2016 first quarter.

Corporate Expenses.

Corporate expenses were \$12.2 million for the 2017 first quarter, compared to \$9.4 million for the 2016 first quarter. The higher level of corporate expenses in the 2017 first quarter was primarily due to higher incentive compensation costs.

UGC Transaction Costs and Other.

UGC transaction costs and other were \$15.6 million for the 2017 first quarter, compared to \$34.6 million in the 2016 fourth quarter. UGC transaction costs and other include advisory, financing, legal and other transaction costs related to the UGC acquisition. Amounts for the 2017 first quarter reflected \$8.2 million of severance and severance related costs, with the remainder primarily due to incentive compensation paid in conjunction with the UGC acquisition.

Amortization of Intangible Assets.

Amortization of intangible assets for the 2017 first quarter was \$31.3 million, compared to \$4.7 million for the 2016 first quarter. During the 2017 first quarter, we reclassified our income statement presentation of amortization of intangible assets to reflect such item separately (previously reflected in acquisition and/or other operating expenses). The higher level of expense for the 2017 first quarter reflects the amortization of intangible assets included in the UGC acquisition, including

intangible assets related to acquired insurance contracts and distribution relationships.

Interest Expense.

Interest expense was \$25.8 million for the 2017 first quarter, compared to \$12.6 million for the 2016 first quarter, with the increase primarily reflecting the impact of the issuance of the Company's 2026 and 2046 senior notes in December 2016 and the higher level of borrowings outstanding under our revolving credit agreement.

Net Realized Gains or Losses.

We recorded net realized gains of \$28.5 million for the 2017 first quarter, compared to net realized gains of \$31.9 million for the 2016 first quarter. 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 and 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 includes realized and unrealized contract gains and losses on our derivative instruments, changes in the fair value of assets and liabilities accounted for using the fair value option along with re-measurement of contingent consideration liability amounts.

Net Impairment Losses Recognized in Earnings.

We recorded \$1.8 million of impairment losses for the 2017 first quarter, compared to \$7.6 million for the 2016 first quarter. For the 2017 first quarter, impairment losses primarily resulted from our decision to liquidate a portfolio of mortgage backed securities in April 2017. We recorded impairment losses on securities in such portfolio that were in an unrealized loss position at March 31, 2017. See note 7, "Investment Information—Other-Than-Temporary Impairments," of the notes accompanying our consolidated financial statements for additional information.

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

We recorded \$48.1 million of equity in net income related to investment funds accounted for using the equity method in the 2017 first quarter, compared to \$6.7 million loss for the 2016 first quarter. Investment funds accounted for using the equity method totaled \$861.6 million at March 31, 2017, compared to \$811.3 million at December 31, 2016.

Net Foreign Exchange Gains or Losses.

Net foreign exchange losses for the 2017 first quarter were \$19.8 million, compared to net foreign exchange losses for the 2016 first quarter of \$22.0 million. Amounts in such 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 before income taxes resulted in an expense of 10.2% for the 2017 first quarter, compared to an expense of 9.6% for the 2016 first quarter. The 2017 first quarter effective tax rate includes a discrete \$2.5 million income tax benefit arising from the change in accounting for stock based compensation. Our 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.

Other Segment

The ‘other’ segment includes the results of Watford Re. Pursuant to generally accepted accounting principles, Watford Re is considered a variable interest entity and we concluded that we are the primary beneficiary of Watford Re. As such, we consolidate the results of Watford Re in our consolidated financial statements, although we only own approximately 11% of Watford Re’s common equity. See note 3, “Variable Interest Entities and Noncontrolling Interests” and note 5, “Segment Information,” of the notes accompanying our consolidated financial statements for additional information on Watford Re.

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 2016 Form 10-K, updated where applicable in the notes accompanying our consolidated financial statements, including note 2, “Recent Accounting Pronouncements.”

FINANCIAL CONDITION, LIQUIDITY AND CAPITAL RESOURCES

Financial Condition

Investable Assets

At March 31, 2017, total investable assets of \$20.74 billion included \$18.83 billion held by Arch and \$1.90 billion included in the ‘other’ segment (i.e., attributable to Watford Re).

• *Investable Assets Held by Arch*

The following table summarizes the fair value of the investable assets held by Arch:

Investable assets (1):	Estimated Fair Value	% of Total
<u>March 31, 2017</u>		
Fixed maturities (2)	\$ 14,678,019	77.9
Short-term investments	879,178	4.7
Cash	656,188	3.5
Equity securities (2)	486,373	2.6
Other investments (2)	1,360,234	7.2
Investments accounted for using the equity method	861,607	4.6
Securities transactions entered into but not settled at the balance sheet date	(87,990)	(0.5)
Total investable assets held by Arch	\$ 18,833,609	100.0
<u>December 31, 2016</u>		
Fixed maturities (2)	\$ 14,521,774	77.9
Short-term investments	676,547	3.6
Cash	768,049	4.1
Equity securities (2)	558,008	3.0
Other investments (2)	1,276,841	6.9
Investments accounted for using the equity method	811,273	4.4
Securities transactions entered into but not settled at the balance sheet date	23,697	0.1
Total investable assets held by Arch	\$ 18,636,189	100.0

- (1) In securities lending transactions, we receive collateral in excess of the fair value of the securities pledged. For purposes of this table, we have excluded the collateral received under securities lending, at fair value and included the securities pledged under securities lending, at fair value.
- (2) Includes investments carried as available for sale, at fair value and at fair value under the fair value option.

At March 31, 2017, our fixed income portfolio, which includes fixed maturity securities and short-term investments, had average credit quality ratings from Standard & Poor’s Rating Services (“S&P”)/Moody’s of “AA/Aa2” and an average yield to maturity (embedded book yield), before investment expenses, of 2.23%. At December 31, 2016, our fixed income portfolio had average credit quality ratings from S&P/Moody’s of “AA-/Aa3” and an average yield to maturity of 2.03%. Our investment portfolio had an average effective duration of 3.36 years at March 31, 2017, compared to 3.64 years at December 31, 2016. At March 31, 2017, approximately \$13.18 billion, or 70%, of total investable assets held by Arch were internally managed, compared to \$13.90 billion, or 75%, at December 31, 2016.

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The following table summarizes our fixed maturities and fixed maturities pledged under securities lending agreements (“Fixed Maturities”) by type:

	Estimated Fair Value	% of Total
March 31, 2017		
Corporate bonds	\$ 4,902,600	33.4
Mortgage backed securities	425,235	2.9
Municipal bonds	2,519,112	17.2
Commercial mortgage backed securities	590,521	4.0
U.S. government and government agencies	3,266,908	22.3
Non-U.S. government securities	1,335,296	9.1
Asset backed securities	1,638,347	11.2
Total	<u>\$ 14,678,019</u>	<u>100.0</u>
December 31, 2016		
Corporate bonds	\$ 4,696,079	32.3
Mortgage backed securities	504,677	3.5
Municipal bonds	3,713,434	25.6
Commercial mortgage backed securities	536,051	3.7
U.S. government and government agencies	2,804,811	19.3
Non-U.S. government securities	1,142,735	7.9
Asset backed securities	1,123,987	7.7
Total	<u>\$ 14,521,774</u>	<u>100.0</u>

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
March 31, 2017		
U.S. government and gov’t agencies (1)	\$ 3,583,161	24.4
AAA	4,665,048	31.8
AA	2,700,952	18.4
A	2,108,293	14.4
BBB	860,615	5.9
BB	298,703	2.0
B	154,028	1.0
Lower than B	87,373	0.6
Not rated	219,846	1.5
Total	<u>\$ 14,678,019</u>	<u>100.0</u>
December 31, 2016		
U.S. government and gov’t agencies (1)	\$ 3,210,899	22.1
AAA	3,918,739	27.0
AA	3,148,226	21.7
A	2,338,834	16.1
BBB	1,203,942	8.3
BB	226,321	1.6
B	156,405	1.1
Lower than B	90,833	0.6
Not rated	227,574	1.6
Total	<u>\$ 14,521,774</u>	<u>100.0</u>

(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
March 31, 2017			
0-10%	\$ 6,645,673	\$ (82,518)	69.8
10-20%	93,996	(15,585)	13.2
20-30%	70,753	(19,427)	16.4
Greater than 30%	1,143	(666)	0.6
Total	<u>\$ 6,811,565</u>	<u>\$ (118,196)</u>	<u>100.0</u>
December 31, 2016			
0-10%	\$ 7,078,582	\$ (127,909)	71.6
10-20%	155,403	(24,219)	13.5
20-30%	89,887	(25,929)	14.5
Greater than 30%	1,496	(702)	0.4
Total	<u>\$ 7,325,368</u>	<u>\$ (178,759)</u>	<u>100.0</u>

The following table summarizes our top ten exposures to fixed income corporate issuers by fair value at March 31, 2017 , excluding guaranteed amounts and covered bonds:

	Estimated Fair Value	Credit Rating (1)
Microsoft Corporation	\$ 148,440	AAA/Aaa
Apple Inc.	121,246	AA+/Aa1
JPMorgan Chase & Co.	109,874	A-/A3
The Bank of New York Mellon Corporation	103,531	A/A1
Wells Fargo & Company	87,047	A/A2
Citigroup Inc.	76,039	A-/Baa1
Daimler AG	71,214	A/A2
Bayerische Motoren Werke Aktiengesellschaft	71,278	A+/A1
MetLife, Inc.	65,844	AA-/Aa3
Honda Motor Co., Ltd.	58,897	A+/A1
Total	<u>\$ 913,410</u>	

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

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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
March 31, 2017				
RMBS	\$ 311,538	\$ 66,226	\$ 47,471	\$ 425,235
CMBS	4,717	569,206	16,598	590,521
ABS	—	1,529,991	108,356	1,638,347
Total	\$ 316,255	\$ 2,165,423	\$ 172,425	\$ 2,654,103
December 31, 2016				
RMBS	\$ 393,188	\$ 60,600	\$ 50,889	\$ 504,677
CMBS	12,900	513,266	9,885	536,051
ABS	—	1,077,614	46,373	1,123,987
Total	\$ 406,088	\$ 1,651,480	\$ 107,147	\$ 2,164,715

At March 31, 2017, our structured securities included \$49.9 million par value in sub-prime securities with a fair value of \$43.4 million and average credit quality ratings from S&P/Moody’s of “CCC-/Ca.” At December 31, 2016, our fixed income portfolio included \$25.3 million par value in sub-prime securities with a fair value of \$23.3 million and average credit quality ratings from S&P/Moody’s of “CCC/Caa3.”

At March 31, 2017, our equity portfolio included \$486.4 million of equity securities, compared to \$558.0 million at December 31, 2016. Our equity portfolio includes publicly traded common stocks in the natural resources, energy, consumer staples and other sectors.

The following table provides information on the severity of the unrealized loss position as a percentage of cost for all equity securities classified as available for sale which were in an unrealized loss position:

Severity of gross unrealized losses:	Estimated Fair Value	Gross Unrealized Losses	% of Total Gross Unrealized Losses
March 31, 2017			
0-10%	\$ 121,148	\$ (2,809)	42.2
10-20%	9,568	(1,498)	22.5
20-30%	1,929	(565)	8.5
Greater than 30%	2,001	(1,788)	26.8
Total	\$ 134,646	\$ (6,660)	100.0
December 31, 2016			
0-10%	\$ 214,364	\$ (8,776)	50.1
10-20%	52,034	(7,100)	40.5
20-30%	1,983	(607)	3.5
Greater than 30%	1,000	(1,034)	5.9
Total	\$ 269,381	\$ (17,517)	100.0

The following table provides information on the fair value of our Eurozone investments at March 31, 2017:

Country (1)	Sovereign (2)	Corporate Bonds	Other (3)	Total
Netherlands	\$ 87,779	\$ 129,512	\$ 3,589	\$ 220,880
Germany	101,884	42,375	9,775	154,034
France	—	36,889	24,410	61,299
Luxembourg	1,088	31,528	3,552	36,168
Belgium	27,580	7,634	1	35,215
Austria	16,558	—	—	16,558
Ireland	—	10,634	4,373	15,007
Spain	—	1,088	11,700	12,788
Supranational (4)	7,417	—	—	7,417
Italy	—	—	6,515	6,515
Portugal	—	—	552	552
Greece	81	235	—	316
Total	\$ 242,387	\$ 259,895	\$ 64,467	\$ 566,749

- (1) The country allocations set forth in the table are based on various assumptions made by us in assessing the country in which the underlying credit risk resides, including a review of the jurisdiction of organization, business operations and other factors. Based on such analysis, we do not believe that we have any other Eurozone investments at March 31, 2017.
- (2) Includes securities issued and/or guaranteed by Eurozone governments.
- (3) Includes bank loans, equities and other.
- (4) Includes World Bank, European Investment Bank, International Finance Corp. and European Bank for Reconstruction and Development.

The following table summarizes our other investments:

	March 31, 2017	December 31, 2016
Available for sale:		
Asian and emerging markets	\$ 109,084	\$ 84,778
Investment grade fixed income	52,016	33,923
Credit related funds	11,003	7,469
Other	56,334	41,800
Total available for sale	228,437	167,970
Fair value option:		
Term loan investments (par value: \$393,384 and \$385,436)	360,051	378,877
Mezzanine debt funds	109,334	127,943
Credit related funds	208,707	218,298
Investment grade fixed income	82,718	75,468
Asian and emerging markets	205,150	178,568
Other (1)	165,837	129,717
Total fair value option	1,131,797	1,108,871
Total	\$ 1,360,234	\$ 1,276,841

- (1) Includes fund investments with strategies in mortgage servicing rights, transportation and infrastructure assets and other.

• **Investable Assets in the ‘Other’ Segment**

Investable assets in the ‘other’ segment are managed by Watford Re. The board of directors of Watford Re establishes their investment policies and guidelines. Watford Re’s investments are accounted for using the fair value option with changes in

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the carrying value of such investments recorded in net realized gains or losses.

The following table summarizes investable assets in the ‘other’ segment:

	March 31, 2017	December 31, 2016
Investments accounted for using the fair value option:		
Other investments	\$ 763,517	\$ 811,922
Fixed maturities	703,959	734,260
Short-term investments	505,949	309,127
Equity securities	3,042	2,314
Total	1,976,467	1,857,623
Cash	47,566	74,893
Securities sold but not yet purchased	(59,430)	(33,157)
Securities transactions entered into but not settled at the balance sheet date	(61,981)	(41,596)
Total investable assets included in ‘other’ segment	\$ 1,902,622	\$ 1,857,763

Premiums Receivable and Reinsurance Recoverables

At March 31, 2017, 81.8% of premiums receivable of \$1.25 billion represented amounts not yet due, while amounts in excess of 90 days overdue were 4.0% of the total. At December 31, 2016, 81.0% of premiums receivable of \$1.07 billion represented amounts not yet due, while amounts in excess of 90 days overdue were 5.2% of the total. Our reserves for doubtful accounts were approximately \$22.6 million at March 31, 2017, compared to \$21.0 million at December 31, 2016.

At March 31, 2017 and December 31, 2016, approximately 74.9% and 75.7% of reinsurance recoverables on paid and unpaid losses (not including ceded unearned premiums) of \$2.13 billion and \$2.11 billion, respectively, were due from carriers which had an A.M. Best rating of “A-” or better while 25.1% and 24.3%, respectively, were from companies not rated. For items not rated, over 90% of such amount was collateralized through reinsurance trusts or letters of credit at March 31, 2017 and December 31, 2016. The largest reinsurance recoverables from any one carrier was approximately 2.2% and 2.4%, respectively, of total shareholders’ equity available to Arch at March 31, 2017 and December 31, 2016.

Approximately 3.3% of the \$38.0 million of paid losses and loss adjustment expenses recoverable at March 31, 2017 were more than 90 days overdue, compared to 6.7% of the \$30.6 million of paid losses and loss adjustment expenses recoverable at December 31, 2016. No collection issues were indicated on the amount in excess of 90 days overdue at March 31, 2017.

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	
	March 31,	
	2017	2016
Premiums written:		
Direct	\$ 1,096,755	\$ 858,110
Assumed	561,235	579,856
Ceded	(381,730)	(316,731)
Net	\$ 1,276,260	\$ 1,121,235
Premiums earned:		
Direct	\$ 1,023,452	\$ 779,770
Assumed	416,345	421,058
Ceded	(322,780)	(249,249)
Net	\$ 1,117,017	\$ 951,579
Losses and LAE:		
Direct	\$ 507,118	\$ 455,333
Assumed	186,956	192,460
Ceded	(141,504)	(124,844)
Net	\$ 552,570	\$ 522,949

Reserves for Losses and Loss Adjustment Expenses

We establish reserves 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, which is exacerbated by the fact that we have relatively limited historical experience upon which to base such estimates. 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.

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At March 31, 2017 and December 31, 2016, our Loss Reserves, net of unpaid losses and loss adjustment expenses recoverable, by type and by operating segment were as follows:

	March 31, 2017	December 31, 2016
Insurance segment:		
Case reserves	\$ 1,417,387	\$ 1,414,603
IBNR reserves	3,232,482	3,187,451
Total net reserves	4,649,869	4,602,054
Reinsurance segment:		
Case reserves	786,740	762,730
Additional case reserves	79,446	92,524
IBNR reserves	1,524,737	1,517,983
Total net reserves	2,390,923	2,373,237
Mortgage segment:		
Case reserves	547,405	593,222
IBNR reserves	70,611	59,791
Total net reserves (1)	618,016	653,013
Other segment:		
Case reserves	146,571	125,703
Additional case reserves	8,092	9,513
IBNR reserves	388,220	353,865
Total net reserves	542,883	489,081
Total:		
Case reserves	2,898,103	2,896,258
Additional case reserves	87,538	102,037
IBNR reserves	5,216,050	5,119,090
Total net reserves	\$ 8,201,691	\$ 8,117,385

- (1) Includes \$566.2 million of net reserves from U.S. primary mortgage insurance business, of which 75.8% represents policy years 2007 and prior, 11.9% from 2008 and the remainder from later policy years.

At March 31, 2017 and December 31, 2016, the insurance segment's Loss Reserves by major line of business, net of unpaid losses and loss adjustment expenses recoverable, were as follows:

	March 31, 2017	December 31, 2016
Insurance segment:		
Professional lines (1)	\$ 1,315,038	\$ 1,293,667
Construction and national accounts	1,006,271	976,109
Excess and surplus casualty (2)	690,956	687,305
Programs	659,737	667,677
Property, energy, marine and aviation	278,158	302,057
Travel, accident and health	75,571	72,726
Lenders products	44,823	42,147
Other (3)	579,315	560,366
Total net reserves	\$ 4,649,869	\$ 4,602,054

- (1) Includes professional liability, executive assurance and healthcare business.
(2) Includes casualty and contract binding business.
(3) Includes alternative markets, excess workers' compensation and surety business.

At March 31, 2017 and December 31, 2016, the reinsurance segment's Loss Reserves by major line of business, net of unpaid losses and loss adjustment expenses recoverable, were as follows:

	March 31, 2017	December 31, 2016
Reinsurance segment:		
Casualty (1)	\$ 1,375,775	\$ 1,355,362
Other specialty (2)	438,494	428,205
Property excluding property catastrophe (3)	296,054	297,200
Marine and aviation	139,786	147,700
Property catastrophe	79,564	86,026
Other (4)	61,250	58,744
Total net reserves	\$ 2,390,923	\$ 2,373,237

- (1) Includes executive assurance, professional liability, workers' compensation, excess motor, healthcare and other.
(2) Includes non-excess motor, surety, accident and health, workers' compensation catastrophe, agriculture, trade credit and other.
(3) Includes facultative business.
(4) Includes life, casualty clash and other.

Mortgage Operations Supplemental Information

The mortgage segment's insurance in force ("IIF") and risk in force ("RIF") were as follows at the end of the last two quarters:

	March 31, 2017		December 31, 2016	
	Amount	%	Amount	%
Insurance In Force (IIF) (1):				
U.S. primary mortgage insurance	\$ 237,769	73.1	\$ 234,518	74.3
Mortgage reinsurance	25,846	7.9	24,315	7.7
Other (2)	61,596	18.9	56,776	18.0
Total	\$ 325,211	100.0	\$ 315,609	100.0
Risk In Force (RIF) (3):				
U.S. primary mortgage insurance	\$ 60,591	92.5	\$ 59,712	92.7
Mortgage reinsurance	2,494	3.8	2,489	3.9
Other (2)	2,409	3.7	2,242	3.5
Total	\$ 65,494	100.0	\$ 64,443	100.0

- (1) Represents the aggregate dollar amount of each insured mortgage loan's current principal balance.
(2) Includes GSE credit risk-sharing transactions and international insurance business.
(3) Represents 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 credit risk-sharing or reinsurance transactions.

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The insurance in force and risk in force for our U.S. primary mortgage insurance business by policy year were as follows at March 31, 2017 :

(U.S. Dollars in millions)	IIF		RIF		Delinquency
	Amount	%	Amount	%	Rate (1)
<u>Policy year:</u>					
2007 and prior	\$ 24,317	10.2	\$ 5,568	9.2	10.70%
2008	6,503	2.7	1,603	2.6	7.11%
2009	1,556	0.7	368	0.6	2.37%
2010	1,641	0.7	440	0.7	1.71%
2011	4,780	2.0	1,304	2.2	1.10%
2012	16,367	6.9	4,464	7.4	0.62%
2013	26,639	11.2	7,202	11.9	0.68%
2014	27,507	11.6	7,286	12.0	0.66%
2015	48,717	20.5	12,413	20.5	0.34%
2016	67,162	28.2	16,803	27.7	0.13%
2017	12,580	5.3	3,140	5.2	0.01%
Total	\$ 237,769	100.0	\$ 60,591	100.0	2.25%

(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 the end of the last two quarters:

(U.S. Dollars in millions)	March 31, 2017		December 31, 2016	
	Amount	%	Amount	%
<u>Credit quality (FICO):</u>				
≥740	\$ 35,396	58.4	\$ 34,867	58.4
680-739	19,343	31.9	18,976	31.8
620-679	5,065	8.4	5,050	8.5
<620	787	1.3	819	1.4
Total	\$ 60,591	100.0	\$ 59,712	100.0
Weighted average FICO score	743		743	
<u>Loan-to-value (LTV):</u>				
95.01% and above	\$ 5,808	9.6	\$ 5,781	9.7
90.01% to 95.00%	33,617	55.5	32,986	55.2
85.01% to 90.00%	18,346	30.3	18,140	30.4
85.00% and below	2,820	4.7	2,805	4.7
Total	\$ 60,591	100.0	\$ 59,712	100.0
Weighted average LTV	92.9%		92.9%	
Total RIF, net of external reinsurance	\$ 43,606		\$ 42,183	

(U.S. Dollars in millions)

	March 31, 2017		December 31, 2016	
	Amount	%	Amount	%
<u>Total RIF by State:</u>				
Texas	\$ 4,995	8.2	\$ 4,961	8.3
California	3,333	5.5	3,222	5.4
Virginia	2,625	4.3	2,586	4.3
Florida	2,467	4.1	2,367	4.0
Washington	2,313	3.8	2,331	3.9
North Carolina	2,278	3.8	2,245	3.8
Georgia	2,153	3.6	2,111	3.5
Illinois	2,109	3.5	2,090	3.5
Maryland	2,107	3.5	2,080	3.5
Minnesota	2,003	3.3	1,986	3.3
Others	34,208	56.5	33,733	56.5
Total	\$ 60,591	100.0	\$ 59,712	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)	Three Months Ended	
	March 31, 2017	December 31, 2016
<u>Roll-forward of insured loans in default:</u>		
Beginning delinquent number of loans	29,691	2,423
New notices	9,863	1,161
Cures	(11,707)	(1,028)
Paid claims	(1,613)	(153)
Acquired delinquent loans	—	27,288
Ending delinquent number of loans (1)	26,234	29,691
Ending number of policies in force (1)	1,164,929	1,153,630
Delinquency rate (1)	2.25%	2.57%
<u>Losses:</u>		
Number of claims paid	1,613	153
Total paid claims	\$ 70,784	\$ 6,080
Average per claim	\$ 43.9	\$ 39.7
Severity (2)	102.0%	92.3%
Average reserve per default (in thousands) (1)	\$ 20.4	\$ 20.5

(1) Includes first lien primary and pool policies.

(2) 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 12.4 to 1 at March 31, 2017 , compared to 12.4 to 1 at December 31, 2016 .

Shareholders' Equity and Book Value per Share

Total shareholders' equity available to Arch was \$8.61 billion at March 31, 2017 , compared to \$8.25 billion at December 31, 2016 . The increase was primarily attributable to net income, reflecting contributions from both underwriting and investing activities.

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

(U.S. dollars in thousands, except share data)

	March 31, 2017	December 31, 2016
Total shareholders' equity available to Arch	\$ 8,605,844	\$ 8,253,718
Less preferred shareholders' equity	772,555	772,555
Common shareholders' equity available to Arch	\$ 7,833,289	\$ 7,481,163
Common shares and common share equivalents outstanding, net of treasury shares (1)	135,790,306	135,550,337
Book value per share	\$ 57.69	\$ 55.19

- (1) Excludes the effects of 6,664,166 and 6,872,494 stock options and 375,687 and 381,461 restricted stock units outstanding at March 31, 2017 and December 31, 2016, respectively.

Liquidity and Capital Resources

Refer to the 'Liquidity and Capital Resources' section contained in Item 7 of our 2016 Form 10-K for a general discussion of our liquidity and capital resources. This section does not include information specific to Watford Re. We do not guarantee or provide credit support for Watford Re, and our financial exposure to Watford Re is limited to our investment in Watford Re's common and preferred shares and counterparty credit risk (mitigated by collateral) arising from reinsurance transactions with Watford Re.

The following table provided an analysis of our capital structure:

(U.S. dollars in thousands, except share data)

	March 31, 2017	December 31, 2016
Debt:		
ACGL senior notes, due May 2034	\$ 296,979	\$ 296,957
Arch-U.S. senior notes, due Nov 2043 (1)	494,548	494,525
ACF senior notes, due Dec 2026 (2)	495,778	495,689
ACF senior notes, due Dec 2046 (2)	445,105	445,087
Revolving credit agreement borrowings due Oct 2021	500,000	500,000
Total	\$ 2,232,410	\$ 2,232,258
Shareholders' equity available to Arch:		
Series C non-cumulative preferred shares	\$ 322,555	\$ 322,555
Series E non-cumulative preferred shares	450,000	450,000
Common shareholders' equity	7,833,289	7,481,163
Total	\$ 8,605,844	\$ 8,253,718
Total capital available to Arch	\$ 10,838,254	\$ 10,485,976
Debt to total capital (%)	20.6	21.3
Debt and preferred to total capital (%)	27.7	28.7

- (1) Issued by Arch Capital Group (U.S.) Inc., a wholly owned subsidiary of ACGL, and fully and unconditionally guaranteed by ACGL.
(2) Issued by Arch Capital Finance LLC ("ACF"), a wholly owned subsidiary of Arch U.S. MI Holdings Inc., and fully and unconditionally guaranteed by ACGL.

For the three months ended March 31, 2017, ACGL received dividends of \$30.1 million from Arch Reinsurance Ltd. ("Arch Re Bermuda"), our Bermuda-based reinsurer and insurer, which can pay approximately \$1.94 billion to ACGL during the remainder of 2017 without providing an affidavit to the Bermuda Monetary Authority ("BMA").

Our U.S. insurance and reinsurance subsidiaries are subject to insurance laws and regulations in the jurisdictions in which they operate. The ability of our regulated insurance subsidiaries to pay dividends or make distributions is dependent on their ability to meet applicable regulatory standards. These regulations include restrictions that limit the amount of dividends or other distributions, such as loans or cash advances, available to shareholders without prior approval of the insurance regulatory authorities.

In addition, 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 as of March 31, 2017 with an estimated PMIER sufficiency ratio of 122%, compared to 116% at December 31, 2016.

The following table summarizes our cash flows from operating, investing and financing activities, excluding amounts related to the 'other' segment (i.e., Watford Re). See Note 3, "Variable Interest Entities," for cash flows related to Watford Re.

	Three Months Ended	
	March 31,	
	2017	2016
Total cash provided by (used for):		
Operating activities	\$ 146,194	\$ 257,279
Investing activities	(61,334)	(189,559)
Financing activities	(198,961)	(35,664)
Effects of exchange rate changes on foreign currency cash	2,240	2,199
Increase (decrease) in cash	\$ (111,861)	\$ 34,255

- Cash provided by operating activities for the three months ended March 31, 2017 was lower than in the 2016 period, primarily reflecting lower premiums collected and higher retrocessional activity.

- Cash used for investing activities for the three months ended March 31, 2017 was lower than in the 2016 period, reflecting changes in cash collateral related to securities lending. In addition, activity for the 2017 period reflected higher

net purchases of investments than in the 2016 period, including re-balancing of the UGC portfolio.

- Cash used for financing activities for the three months ended March 31, 2017 was higher than in the 2016 period, reflecting changes in cash collateral related to securities lending. Activity for the 2016 period reflected \$75.3 million of repurchases under our share repurchase program.

At March 31, 2017, our investable assets were \$18.83 billion (excluding the \$1.90 billion of investable assets related to the 'other' segment). Our unfunded investment commitments totaled approximately \$1.45 billion at March 31, 2017. Please refer to Item 1A "Risk Factors" of our 2016 Form 10-K for a discussion of other risks relating to our business and investment portfolio.

We expect that our liquidity needs, including our anticipated (re)insurance obligations and operating and capital expenditure needs, for the next twelve months, at a minimum, 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.

Off-Balance Sheet Arrangements

Off-balance sheet arrangements are discussed in Management's Discussion and Analysis of Financial Condition and Results of Operations contained in our 2016 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 March 31, 2017. 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. We have not included Watford Re in the following analyses as we do not guarantee or provide credit support for Watford Re, and our financial exposure to Watford Re is limited to our investment in Watford Re's common and preferred shares and counterparty credit risk (mitigated by collateral) arising from reinsurance transactions.

An analysis of material changes in market risk exposures at March 31, 2017 that affect the quantitative and qualitative disclosures presented in our 2016 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, fixed maturities pledged under securities lending agreements, short-term investments and certain of our other investments which invest in fixed income securities and the corresponding change in unrealized appreciation. As interest rates rise, the fair value of our interest rate sensitive 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. 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
Mar. 31, 2017					
Total fair value	\$ 18.31	\$ 17.99	\$ 17.69	\$ 17.41	\$ 17.12
Change from base	3.50%	1.70%		(1.60)%	(3.20)%
Change in unrealized value	\$ 0.62	\$ 0.30		\$ (0.28)	\$ (0.57)
Dec. 31, 2016					
Total fair value	\$ 17.95	\$ 17.62	\$ 17.31	\$ 17.00	\$ 16.70
Change from base	3.70%	1.80%		(1.80)%	(3.50)%
Change in unrealized value	\$ 0.64	\$ 0.31		\$ (0.31)	\$ (0.61)

In addition, we consider the effect of credit spread movements on the fair value of our fixed income securities and the corresponding change in unrealized appreciation. As credit spreads widen, the fair value of our fixed income securities falls, and the converse is also true.

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
Mar. 31, 2017					
Total fair value	\$ 18.15	\$ 17.92	\$ 17.69	\$ 17.46	\$ 17.23
Change from base	2.60%	1.30%		(1.30)%	(2.60)%
Change in unrealized value	\$ 0.46	\$ 0.23		\$ (0.23)	\$ (0.46)
Dec. 31, 2016					
Total fair value	\$ 17.79	\$ 17.55	\$ 17.31	\$ 17.07	\$ 16.83
Change from base	2.80%	1.40%		(1.40)%	(2.80)%
Change in unrealized value	\$ 0.48	\$ 0.24		\$ (0.24)	\$ (0.48)

Another method that attempts to measure portfolio risk is Value-at-Risk ("VaR"). VaR attempts to take into account a broad cross-section of risks facing a portfolio by utilizing relevant securities volatility data skewed towards the most recent

months and quarters. VaR measures the amount of a portfolio at risk for outcomes 1.65 standard deviations from the mean based on normal market conditions over a one year time horizon and is expressed as a percentage of the portfolio's initial value. In other words, 95% of the time, should the risks taken into account in the VaR model perform per their historical tendencies, the portfolio's loss in any one year period is expected to be less than or equal to the calculated VaR, stated as a percentage of the measured portfolio's initial value. As of March 31, 2017, our portfolio's VaR was estimated to be 3.78% compared to an estimated 3.75% at December 31, 2016.

Equity Securities. At March 31, 2017 and December 31, 2016, the fair value of our investments in equity securities totaled \$486.4 million and \$558.0 million, 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 \$48.6 million and \$55.8 million at March 31, 2017 and December 31, 2016, respectively, and would have decreased book value per common share by approximately \$0.36 and \$0.41, respectively. An immediate hypothetical 10% increase in the value of each position would increase the fair value of such investments by approximately \$48.6 million and \$55.8 million at March 31, 2017 and December 31, 2016, respectively, and would have increased book value per common share by approximately \$0.36 and \$0.41, respectively.

Investment-Related Derivatives. At March 31, 2017, the notional value of all derivative instruments (excluding to-be-announced mortgage backed securities which are included in the fixed income securities analysis above and foreign currency forward contracts which are included in the foreign currency exchange risk analysis below) was \$3.30 billion, compared to \$2.12 billion at December 31, 2016. If the underlying exposure of each investment-related derivative held at March 31, 2017 depreciated by 100 basis points, it would have resulted in a reduction in net income of approximately \$33.0 million, and a decrease in book value per common share of approximately \$0.24 per share, compared to \$21.2 million and \$0.16 per share, respectively, on investment-related derivatives held at December 31, 2016. If the underlying exposure of each investment-related derivative held at March 31, 2017 appreciated by 100 basis points, it would have resulted in an increase in net income of approximately \$33.0 million, and an increase in book value per common share of approximately \$0.24 per share, compared to \$21.2 million and \$0.16 per share, respectively, on investment-related derivatives held at December 31, 2016. See note 9, "Derivative Instruments," of the notes accompanying our consolidated financial statements for additional disclosures concerning derivatives.

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 and also utilize foreign currency forward contracts and currency options as part of our investment strategy. 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.

For further discussion on foreign exchange activity, please refer to "—Results of Operations" and note 9, "Derivative Instruments," of the notes accompanying our consolidated financial statements.

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:

(U.S. dollars in thousands, except per share data)	March 31, 2017	December 31, 2016
Net assets (liabilities), denominated in foreign currencies, excluding shareholders' equity and derivatives	\$ (94,663)	\$ (63,077)
Shareholders' equity denominated in foreign currencies (1)	295,185	290,752
Net foreign currency forward contracts outstanding (2)	(169,480)	(250,263)
Net exposures denominated in foreign currencies	\$ 31,042	\$ (22,588)
Pre-tax impact of a hypothetical 10% appreciation of the U.S. Dollar against foreign currencies:		
Shareholders' equity	\$ (3,104)	\$ 2,259
Book value per common share	\$ (0.02)	\$ 0.02
Pre-tax impact of a hypothetical 10% decline of the U.S. Dollar against foreign currencies:		
Shareholders' equity	\$ 3,104	\$ (2,259)
Book value per common share	\$ 0.02	\$ (0.02)

- (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.

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.

Other Financial Information

The consolidated financial statements as of March 31, 2017 and for the three month period ended March 31, 2017 and 2016 have been reviewed by PricewaterhouseCoopers LLP, the registrant's independent public accountants, whose report is included as an exhibit to this filing. The report of PricewaterhouseCoopers LLP states that they did not audit and they do not express an opinion on that unaudited financial information. Accordingly, the degree of reliance on their report on such information should be restricted in light of the limited nature of the review procedures applied. PricewaterhouseCoopers LLP is not subject to the liability provisions of Section 11 of the Securities Act of 1933 for their report on the unaudited financial information because that report is not a "report" or a "part" of the registration statement prepared or certified by PricewaterhouseCoopers LLP within the meaning of Sections 7 and 11 of the Securities Act of 1933.

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 effectiveness of disclosure controls and procedures pursuant to applicable Exchange Act Rules as of the end of the period covered by this report. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that the disclosure controls and procedures were effective as of the end of and during the period covered by this report with respect to information being recorded, processed, summarized and reported within time periods specified in the SEC's rules and forms and with respect to timely communication to them and other members of management responsible for preparing periodic reports of all material information required to be disclosed in this report as it relates to ACGL and its consolidated subsidiaries.

We continue to enhance our operating procedures and internal controls to effectively support our business and our regulatory and reporting requirements. 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 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 Controls Over Financial Reporting

We acquired all of the issued and outstanding capital stock of UGC on December 31, 2016. As allowed under SEC guidance, management's assessment of and conclusion regarding the design and effectiveness of internal control over financial reporting excluded the internal control over financial reporting of UGC, which is relevant to the Company's consolidated financial statements as of and for the three months ended March 31, 2017. UGC represents 16% of total assets as of March 31, 2017 and 14% of our total revenues for the three months ended March 31, 2017. The financial reporting systems of UGC have not yet been fully integrated into our financial reporting systems and, as such, we did not have the practical ability to perform an assessment of UGC's internal control over financial reporting in time for the current quarter-end. Management expects to complete the process of integrating UGC's internal control over financial reporting during 2017. The UGC acquisition represents a material change in internal control over financial reporting as defined in Exchange Act Rule 13a-15(f) during the quarter ended March 31, 2017.

There have been no changes in internal control over financial reporting that occurred during the quarter ended March 31, 2017 that have materially affected, or are reasonably likely to materially affect, internal control over financial reporting, other than the UGC acquisition as described in the preceding paragraph.

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 March 31, 2017, 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, 2016.

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

The following table summarizes our purchases of our common shares for the 2017 first quarter :

Period	Issuer Purchases of Equity Securities				Approximate Dollar Value of Shares that May Yet be Purchased Under the Plan or Programs (2)
	Total Number of Shares Purchased (1)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs		
1/1/2017 - 1/31/2017	13,410	\$ 87.39	—	\$	446,501
2/1/2017 - 2/28/2017	28,758	93.52	—	\$	446,501
3/1/2017 - 3/31/2017	8,866	94.59	—	\$	446,501
Total	51,034	\$ 92.10	—	\$	446,501

- (1) Represents repurchases by ACGL of shares, from time to time, from employees in order to facilitate the payment of withholding taxes on restricted shares granted and the exercise of stock appreciation rights. We purchased these shares 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) Remaining amount available at March 31, 2017 under ACGL's share repurchase authorization, under which repurchases may be effected from time to time in open market or privately negotiated transactions through December 31, 2019.

ITEM 5. OTHER INFORMATION

In accordance with Section 10a(i)(2) of the Securities Exchange Act of 1934, as amended, we are responsible for disclosing non-audit services to be provided by our independent auditor, PricewaterhouseCoopers LLP, which are approved by the Audit Committee of our board of directors. During the 2017 first quarter, the Audit Committee approved engagements of PricewaterhouseCoopers LLP for permitted non-audit services, which consisted of tax consulting services, tax compliance services and other accounting consulting services.

Disclosure of Certain Activities Under Section 13(r) of the Securities Exchange Act of 1934

Section 13(r) of the Securities Exchange Act of 1934, as amended, requires an issuer to disclose in its annual or quarterly reports whether it or an affiliate knowingly engaged in certain activities described in that section, including certain activities related to Iran during the period covered by the report.

Effective January 16, 2016, the Office of Foreign Assets Control of the U.S. Department of the Treasury adopted General License H which authorizes non-U.S. entities that are owned or controlled by a U.S. person to engage in certain activities with Iran so long as they comply with certain specific requirements set forth therein.

Certain of our non-U.S. subsidiaries provide global marine policies that provide coverage for vessels navigating into and out of ports worldwide. In light of European Union and U.S. modifications to Iran sanctions this year, including the issuance of General License H, and consistent with General License H, we have been notified that certain of our policyholders have begun to, or will begin to, ship cargo to and from Iran, and that such cargo may include transporting crude oil from Iran to another country. Since these policies insure multiple voyages and fleets containing multiple ships, we are unable to attribute gross revenues and net profits from such marine policies to these activities involving Iran. We intend for our non-U.S. subsidiaries to continue to provide such coverage to the extent permitted by applicable law.

ITEM 6. EXHIBITS

Exhibit No.	Description
10.1	First Amendment to Third Amended and Restated Incentive Compensation Plan
15	Accountants' Awareness Letter (regarding unaudited interim financial information)
31.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1	Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2	Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101	The following financial information from Arch Capital Group Ltd.'s Quarterly Report for the quarter ended March 31, 2017 formatted in XBRL: (i) Consolidated Balance Sheets at March 31, 2017 and December 31, 2016; (ii) Consolidated Statements of Income for the three month periods ended March 31, 2017 and 2016; (iii) Consolidated Statements of Comprehensive Income for the three month periods ended March 31, 2017 and 2016; (iv) Consolidated Statements of Changes in Shareholders' Equity for the three month periods ended March 31, 2017 and 2016; (v) Consolidated Statements of Cash Flows for the three month periods ended March 31, 2017 and 2016; and (vi) Notes to Consolidated Financial Statements.

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)

Date: May 5, 2017

/s/ Constantine Iordanou

Constantine Iordanou

Chief Executive Officer (Principal Executive Officer) and Chairman of the Board of Directors

Date: May 5, 2017

/s/ Mark D. Lyons

Mark D. Lyons

Executive Vice President, Chief Financial Officer and Treasurer (Principal Financial and Accounting Officer)

EXHIBIT INDEX

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**FIRST AMENDMENT TO
THIRD AMENDED AND RESTATED
ARCH CAPITAL GROUP LTD. INCENTIVE COMPENSATION PLAN**

The Third Amended and Restated Arch Capital Group Ltd. Incentive Compensation Plan is amended, effective as of January 1, 2017, by changing the fourth sentence of Section 4.1 thereof to read in its entirety as follows: “All Eligible Employees that are not designated as subject to the Formula Approach shall be subject to the Target Bonus Approach.”

Securities and Exchange Commission
100 F Street, N.E.
Washington, DC 20549

Commissioners:

We are aware that our report dated May 5, 2017 on our review of interim financial information of Arch Capital Group Ltd. and its subsidiaries (the “Company”) for the three-month period ended March 31, 2017 and March 31, 2016 and included in the Company's quarterly report on Form 10-Q for the quarter ended March 31, 2017 is incorporated by reference in the Registration Statement on Form S-3 (Registration No. 333-202440, Registration No. 333-202440-01 and Registration No. 333-202440-02) and in the Registration Statements on Forms S-8 (Registration No. 333-99974, Registration No. 333-86145, Registration No. 333-82772, Registration No. 333-211193, Registration No. 333-72182, Registration No. 333-98971, Registration No. 333-124422, Registration No. 333-142835, Registration No. 333-181308, and Registration No. 333-203993).

Very truly yours,

/s/ PricewaterhouseCoopers LLP

May 5, 2017

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

I, Constantine Iordanou, 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 to the audit committee of 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: May 5, 2017

By: /s/ Constantine Iordanou

Name: Constantine Iordanou

Title: Chief Executive Officer

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

I, Mark D. Lyons, 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 to the audit committee of 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: May 5, 2017

By: /s/ Mark D. Lyons

Name: Mark D. Lyons

Title: Executive Vice President, Chief Financial Officer
and Treasurer

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 March 31, 2017 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), Constantine Iordanou, 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: May 5, 2017

By: /s/ Constantine Iordanou

Name: Constantine Iordanou

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.

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 March 31, 2017 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), Mark D. Lyons, 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: May 5, 2017

By: /s/ Mark D. Lyons

Name: Mark D. Lyons

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.