

ARCH CAPITAL GROUP LTD.  
Form 10-Q  
May 06, 2016  
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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, 2016

Or

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

Commission file number: 001-26456

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  
(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" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated Filer  Accelerated Filer  Non-accelerated Filer  Smaller reporting company

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Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes  No

As of May 2, 2016, there were 122,095,142 common shares, \$0.0033 par value per share, of the registrant outstanding.

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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” or 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;
- 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;
- the integration of businesses we have acquired or may acquire into our existing operations;
- 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, 2016;
- 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, 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.

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**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, 2016, and the related consolidated statements of income and comprehensive income for the three-month periods ended March 31, 2016 and March 31, 2015, and the consolidated statements of changes in shareholders’ equity and cash flows for the three-month periods ended March 31, 2016 and March 31, 2015. 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, 2015, 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 February 26, 2016, we expressed an unqualified opinion on those consolidated financial statements. In our opinion, the information set forth in the accompanying consolidated balance sheet as of December 31, 2015, is fairly stated in all material respects in relation to the consolidated balance sheet from which it has been derived.

/s/ PricewaterhouseCoopers LLP

New York, New York  
May 6, 2016

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CONSOLIDATED BALANCE SHEETS

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

	(Unaudited)	
	March 31, 2016	December 31, 2015
Assets		
Investments:		
Fixed maturities available for sale, at fair value (amortized cost: \$10,551,434 and \$10,515,440)	\$10,645,257	\$10,459,353
Short-term investments available for sale, at fair value (amortized cost: \$625,532 and \$591,141)	623,844	587,904
Collateral received under securities lending, at fair value (amortized cost: \$594,922 and \$385,984)	594,929	389,336
Equity securities available for sale, at fair value (cost: \$451,117 and \$543,767)	506,915	618,405
Other investments available for sale, at fair value (cost: \$178,808 and \$261,343)	195,079	300,476
Investments accounted for using the fair value option	3,139,332	2,894,494
Investments accounted for using the equity method	628,832	592,973
Total investments	16,334,188	15,842,941
Cash	557,961	553,326
Accrued investment income	81,628	87,206
Securities pledged under securities lending, at fair value (amortized cost: \$574,577 and \$386,411)	580,766	384,081
Premiums receivable	1,209,548	983,443
Reinsurance recoverable on unpaid and paid losses and loss adjustment expenses	1,962,863	1,867,373
Contractholder receivables	1,529,105	1,486,296
Prepaid reinsurance premiums	500,412	427,609
Deferred acquisition costs, net	464,288	433,477
Receivable for securities sold	329,262	45,505
Goodwill and intangible assets	92,670	97,531
Other assets	898,678	968,482
Total assets	\$24,541,369	\$23,177,270
Liabilities		
Reserve for losses and loss adjustment expenses	\$9,378,987	\$9,125,250
Unearned premiums	2,579,148	2,333,932
Reinsurance balances payable	276,426	224,120
Contractholder payables	1,529,105	1,486,296
Collateral held for insured obligations	249,440	248,982
Deposit accounting liabilities	266,140	260,364
Senior notes	791,349	791,306
Revolving credit agreement borrowings	457,431	530,434
Securities lending payable	594,922	393,844
Payable for securities purchased	494,813	64,996
Other liabilities	549,832	568,852
Total liabilities	17,167,593	16,028,376
Commitments and Contingencies		



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Redeemable noncontrolling interests	205,274	205,182
Shareholders' Equity		
Non-cumulative preferred shares	325,000	325,000
Common shares (\$0.0033 par, shares issued: 173,744,473 and 173,107,849)	579	577
Additional paid-in capital	485,943	467,339
Retained earnings	7,519,685	7,370,371
Accumulated other comprehensive income (loss), net of deferred income tax	101,629	(16,502 )
Common shares held in treasury, at cost (shares: 51,650,877 and 50,480,066)	(2,019,249 )	(1,941,904 )
Total shareholders' equity available to Arch	6,413,587	6,204,881
Non-redeemable noncontrolling interests	754,915	738,831
Total shareholders' equity	7,168,502	6,943,712
Total liabilities, noncontrolling interests and shareholders' equity	\$24,541,369	\$23,177,270

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## ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

## CONSOLIDATED STATEMENTS OF INCOME

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

	(Unaudited)	
	Three Months Ended	
	March 31,	
	2016	2015
Revenues		
Net premiums written	\$ 1,121,235	\$ 1,066,995
Change in unearned premiums	(169,656 )	(156,731 )
Net premiums earned	951,579	910,264
Net investment income	93,735	78,994
Net realized gains (losses)	37,324	83,348
Other-than-temporary impairment losses	(7,737 )	(7,247 )
Less investment impairments recognized in other comprehensive income, before taxes	98	1,448
Net impairment losses recognized in earnings	(7,639 )	(5,799 )
Other underwriting income	5,047	11,536
Equity in net income (loss) of investment funds accounted for using the equity method	6,655	5,889
Other income (loss)	(25 )	(1,888 )
Total revenues	1,086,676	1,082,344
Expenses		
Losses and loss adjustment expenses	522,949	493,716
Acquisition expenses	170,465	163,076
Other operating expenses	161,652	157,882
Interest expense	16,107	12,736
Net foreign exchange losses (gains)	23,566	(66,501 )
Total expenses	894,739	760,909
Income before income taxes	191,937	321,435
Income tax expense	(16,310 )	(12,678 )
Net income	\$ 175,627	\$ 308,757
Net (income) loss attributable to noncontrolling interests	(20,829 )	(25,421 )
Net income available to Arch	154,798	283,336
Preferred dividends	(5,484 )	(5,484 )
Net income available to Arch common shareholders	\$ 149,314	\$ 277,852
Net income per common share		
Basic	\$ 1.24	\$ 2.24
Diluted	\$ 1.20	\$ 2.16
Weighted average common shares and common share equivalents outstanding		
Basic	120,428,179	124,209,276
Diluted	124,496,496	128,451,054

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

	(Unaudited)	
	Three Months Ended	
	March 31,	
	2016	2015
Comprehensive Income		
Net income	\$175,627	\$308,757
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	132,981	84,304
Portion of other-than-temporary impairment losses recognized in other comprehensive income, net of deferred income tax	(98 )	(1,448 )
Reclassification of net realized (gains) losses, net of income taxes, included in net income	(32,223 )	(30,932 )
Foreign currency translation adjustments	17,313	(22,757 )
Comprehensive income	293,600	337,924
Net (income) loss attributable to noncontrolling interests	(20,829 )	(25,421 )
Other comprehensive (income) loss attributable to noncontrolling interests	158	—
Comprehensive income available to Arch	\$272,929	\$312,503

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

	(Unaudited)	
	Three Months Ended	
	March 31,	
	2016	2015
Non-cumulative preferred shares		
Balance at beginning and end of period	\$325,000	\$325,000
Common shares		
Balance at beginning of year	577	572
Common shares issued, net	2	1
Balance at end of period	579	573
Additional paid-in capital		
Balance at beginning of year	467,339	383,073
Common shares issued, net	—	—
Exercise of stock options	4,222	3,368
Amortization of share-based compensation	14,265	13,238
Other	117	78
Balance at end of period	485,943	399,757
Retained earnings		
Balance at beginning of year	7,370,371	6,854,571
Net income	175,627	308,757
Net (income) loss attributable to noncontrolling interests	(20,829 )	(25,421 )
Preferred share dividends	(5,484 )	(5,484 )
Balance at end of period	7,519,685	7,132,423
Accumulated other comprehensive income		
Balance at beginning of year	(16,502 )	128,856
Unrealized appreciation (decline) in value of available-for-sale investments, net of deferred income tax:		
Balance at beginning of year	50,085	161,598
Unrealized holding (losses) gains arising during period, net of reclassification adjustment	100,758	53,372
Portion of other-than-temporary impairment losses recognized in other comprehensive income, net of deferred income tax	(98 )	(1,448 )
Balance at end of period	150,745	213,522
Foreign currency translation adjustments:		
Balance at beginning of year	(66,587 )	(32,742 )
Foreign currency translation adjustments	17,313	(22,757 )
Foreign currency translation adjustments attributable to noncontrolling interests	158	—
Balance at end of period	(49,116 )	(55,499 )
Balance at end of period	101,629	158,023
Common shares held in treasury, at cost		
Balance at beginning of year	(1,941,904 )	(1,562,019 )
Shares repurchased for treasury	(77,345 )	(165,055 )

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Balance at end of period	(2,019,249 )	(1,727,074 )
Total shareholders' equity available to Arch	6,413,587	6,288,702
Non-redeemable noncontrolling interests	754,915	789,594
Total shareholders' equity	\$7,168,502	\$7,078,296

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

	(Unaudited)	
	Three Months Ended	
	March 31,	
	2016	2015
Operating Activities		
Net income	\$ 175,627	\$ 308,757
Adjustments to reconcile net income to net cash provided by operating activities:		
Net realized (gains) losses	(43,034 )	(87,907 )
Net impairment losses recognized in earnings	7,639	5,799
Equity in net income or loss of investment funds accounted for using the equity method and other income or loss	3,243	(1,970 )
Share-based compensation	14,265	13,238
Changes in:		
Reserve for losses and loss adjustment expenses, net of unpaid losses and loss adjustment expenses recoverable	111,255	54,327
Unearned premiums, net of prepaid reinsurance premiums	169,656	156,731
Premiums receivable	(217,348 )	(192,247 )
Deferred acquisition costs, net	(30,050 )	(36,304 )
Reinsurance balances payable	51,929	(16,022 )
Other liabilities	32,697	(48,856 )
Other items	46,664	(70,085 )
Net Cash Provided By Operating Activities	322,543	85,461
Investing Activities		
Purchases of fixed maturity investments	(8,133,537 )	(7,030,731 )
Purchases of equity securities	(128,263 )	(125,863 )
Purchases of other investments	(305,198 )	(375,402 )
Proceeds from sales of fixed maturity investments	7,827,536	6,857,115
Proceeds from sales of equity securities	216,012	125,906
Proceeds from sales, redemptions and maturities of other investments	211,125	269,449
Proceeds from redemptions and maturities of fixed maturity investments	163,894	272,657
Net settlements of derivative instruments	21,091	26,063
Net (purchases) sales of short-term investments	(65,594 )	66,283
Change in cash collateral related to securities lending	(43,118 )	(5,529 )
Purchase of business, net of cash acquired	—	(2,432 )
Purchases of fixed assets	(3,952 )	(3,272 )
Change in other assets	6,737	(29,625 )
Net Cash Provided By (Used For) Investing Activities	(233,267 )	44,619
Financing Activities		
Purchases of common shares under share repurchase program	(75,256 )	(162,898 )
Proceeds from common shares issued, net	202	(412 )
Repayments of borrowings	(74,171 )	—
Change in cash collateral related to securities lending	43,118	5,529
Dividends paid to redeemable noncontrolling interests	(4,497 )	(4,816 )
Other	29,115	29,779
Preferred dividends paid	(5,484 )	(5,484 )
Net Cash Provided By (Used For) Financing Activities	(86,973 )	(138,302 )

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Effects of exchange rate changes on foreign currency cash	2,332	(6,468 )
Increase (decrease) in cash	4,635	(14,690 )
Cash beginning of year	553,326	485,702
Cash end of period	\$557,961	\$471,012
Income taxes paid	\$2,504	\$3,569
Interest paid	\$3,813	\$511

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ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

1. General

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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 (“Watford Re”). See Note 3.

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, 2015 (“2015 Form 10-K”), including the Company’s audited consolidated financial statements and related notes.

The Company has reclassified the presentation of certain prior year information to conform to the current presentation. Such reclassifications had no effect on the Company’s net income, comprehensive income, shareholders’ equity or cash flows. Tabular amounts are in U.S. Dollars in thousands, except share amounts, unless otherwise noted.

2. Recent Accounting Pronouncements

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Recently Issued Accounting Standards Adopted

The Company adopted a new accounting standard in the quarter that provided targeted improvements to consolidation guidance for limited partnerships and other similarly structured entities. The adoption of this standard resulted in the Company concluding that it no longer had a variable

interest in Alternative Re Ltd. and, as a result, no longer is required to consolidate Alternative Re Ltd. in its financial statements. Alternative Re Ltd. is a Bermuda-domiciled company that provides collateralized segregated accounts to its clients. The Company applied this new standard on a modified retrospective basis as of January 1, 2016. Such adoption did not impact the Company’s shareholders’ equity or net income.

The adoption of the new standard also resulted in a review of certain funds within the Company’s investment portfolio where the Company has a limited partnership interest. See Note 6 for disclosures on limited partnership interests.

The Company also adopted new accounting guidance pertaining to hybrid instruments. The new guidance clarified the evaluation of whether the nature of a host contract within a hybrid instrument issued in the form of a share is more akin to debt or equity. The Company has adopted this new guidance on a modified retrospective basis as of January 1, 2016. Based on a review of hybrid instruments issued in the form of a share (both held in its investment portfolio and issued as part of capital raising), the Company determined the new accounting guidance had no impact on the classification or accounting for its existing hybrid instruments.

Recently Issued Accounting Standards Not Yet Adopted

An accounting standard was issued in the 2015 second quarter requiring new disclosures about the reserve for losses and loss adjustment expenses for short-duration insurance contracts. These disclosures will provide additional insight

into an insurance entity's ability to underwrite and anticipate costs associated with claims. This accounting guidance is effective for the 2016 annual reporting period and interim periods thereafter and should be applied retrospectively. The Company is assessing the impact the implementation of this standard will have on the disclosures included in its consolidated financial statements.

A new accounting standard was issued in the 2016 first quarter to improve and simplify the accounting for employee share-based payment transactions. The new standard 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. The standard is effective in the 2017 first quarter and early adoption is permitted. The application of the new standard is dependent on the specific area that is amended. The Company is assessing the impact the implementation of this standard will have on its consolidated financial statements.

In the 2016 first quarter, new accounting guidance was issued pertaining to the accounting for leases by a lessee. The new accounting guidance requires that the lessee recognize an

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## ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

asset and a liability for leases with a lease term greater than 12 months regardless of whether the lease is classified as operating or financing. Under current accounting, operating leases are not reflected in the balance sheet. This accounting guidance is effective for the 2019 first quarter, though early application is permitted, and should be applied on a modified retrospective basis. The Company is assessing the impact the implementation of this standard 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.

On March 20, 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 concluded that Watford Re represents a separate operating segment and provides the income statement and total investable assets, total assets and total liabilities of Watford Re within Note 5. At March 31, 2016, Watford Re’s liabilities included unearned premiums of \$278.0 million and reserves for losses and loss adjustment expenses of \$351.7 million, some of which is related to transactions with the Company, along with \$357.4 million of revolving credit agreement borrowings (see Note 9). For the 2016 first quarter, Watford Re generated \$65.3 million of cash provided by operating activities, \$43.7 million of cash used for financing activities and \$51.3 million of cash used for investing activities.

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 the reinsurance transactions.

## 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, 2016. The portion of Watford Re’s income or loss attributable to third party investors is recorded in the consolidated statements of income in ‘amounts attributable to noncontrolling interests.’

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

	Three Months Ended	
	March 31,	
	2016	2015
Balance, beginning of period	\$738,831	\$769,081
Amounts attributable to noncontrolling interests	16,242	20,513
Foreign currency translation adjustments	(158)	—
Balance, end of period	\$754,915	\$789,594
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 late 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 ‘amounts attributable to noncontrolling interests’ in the Company’s consolidated statements of income.

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

	Three Months Ended	
	March 31,	
	2016	2015
Balance, beginning of period	\$ 205,182	\$ 219,512
Accretion of preference share issuance costs	92	92
Balance, end of period	\$ 205,274	\$ 219,604

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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' as summarized in the table below:

	Three Months Ended	
	March 31,	
	2016	2015
Amounts attributable to non-redeemable noncontrolling interests	\$(16,242)	\$(20,513)
Dividends attributable to redeemable noncontrolling interests	(4,587 )	(4,908 )
Net (income) loss attributable to noncontrolling interests	\$(20,829)	\$(25,421)

## 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,	
	2016	2015
Numerator:		
Net income	\$175,627	\$308,757
Net (income) loss attributable to noncontrolling interests	(20,829 )	(25,421 )
Net income available to Arch	154,798	283,336
Preferred dividends	(5,484 )	(5,484 )
Net income available to Arch common shareholders	\$149,314	\$277,852
Denominator:		
Weighted average common shares outstanding — basic	120,428,179	24,209,276
Effect of dilutive common share equivalents:		
Nonvested restricted shares	1,460,654	1,416,801
Stock options (1)	2,607,663	2,824,977
Weighted average common shares and common share equivalents outstanding — diluted	124,496,496	28,451,054
Earnings per common share:		
Basic	\$1.24	\$2.24
Diluted	\$1.20	\$2.16

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 (1) 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 2016 first quarter and 2015 first quarter, the number of stock options excluded were 607,208 and 703,853, respectively.

## 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 results of Arch Mortgage Insurance Company ("Arch MI U.S.") and Arch Mortgage Insurance Designated Activity Company, leading providers of mortgage insurance products and services to the U.S. and European markets, respectively. Arch MI U.S. is approved as an eligible mortgage insurer by Federal National Mortgage Association ("Fannie Mae") and Federal Home Loan Mortgage Corporation ("Freddie Mac"), each a government sponsored enterprise, or "GSE." The mortgage segment also includes GSE credit risk-sharing transactions and mortgage reinsurance for the U.S. and Australian markets.

The corporate (non-underwriting) segment results include net investment income, other income (loss), other expenses incurred by the Company, interest expense, net realized gains

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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, income taxes and items related to the Company's non-cumulative preferred shares. 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.

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, 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	(74,354 )	(54,787 )	(8,385 )	(137,526 )	(32,939 )	(170,465 )
Other operating expenses	(85,861 )	(36,455 )	(24,615 )	(146,931 )	(5,338 )	(152,269 )
Underwriting income (loss)	\$ 29,265	\$ 58,693	\$ 23,929	111,887	(944 )	110,943
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 )
Other expenses				(9,383 )	—	(9,383 )
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 )

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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	% 13.6	% 16.4	% 28.5	% 17.9	%
Other operating expense ratio	16.7	% 14.0	% 39.9	% 17.6	% 4.6	% 16.0	%
Combined ratio	94.3	% 77.7	% 67.5	% 87.1	% 101.6	% 88.9	%

Goodwill and intangible assets	\$27,825	\$1,713	\$63,132	\$92,670	\$—	\$92,670
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Total investable assets	\$14,954,294	\$1,709,862	\$16,664,156
Total assets	22,217,987	2,323,382	24,541,369
Total liabilities	15,912,609	1,254,984	17,167,593

Certain amounts included in the gross premiums written of each segment are related to intersegment transactions. (1) 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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	Three Months Ended March 31, 2015						
	Insurance	Reinsurance	Mortgage	Sub-Total	Other	Total	
Gross premiums written (1)	\$766,153	\$485,112	\$60,541	\$1,311,678	\$128,633	\$1,342,022	
Premiums ceded	(224,150 )	(136,569 )	(8,670 )	(369,261 )	(4,055 )	(275,027 )	
Net premiums written	542,003	348,543	51,871	942,417	124,578	1,066,995	
Change in unearned premiums	(34,089 )	(68,826 )	(1,504 )	(104,419 )	(52,312 )	(156,731 )	
Net premiums earned	507,914	279,717	50,367	837,998	72,266	910,264	
Other underwriting income	427	1,429	7,718	9,574	1,962	11,536	
Losses and loss adjustment expenses	(317,896 )	(112,532 )	(13,809 )	(444,237 )	(49,479 )	(493,716 )	
Acquisition expenses, net	(75,078 )	(56,604 )	(10,418 )	(142,100 )	(20,976 )	(163,076 )	
Other operating expenses	(88,119 )	(38,044 )	(20,369 )	(146,532 )	(2,005 )	(148,537 )	
Underwriting income (loss)	\$27,248	\$73,966	\$13,489	114,703	1,768	116,471	
Net investment income				70,288	8,706	78,994	
Net realized gains (losses)				65,509	17,839	83,348	
Net impairment losses recognized in earnings				(5,799 )	—	(5,799 )	
Equity in net income (loss) of investment funds accounted for using the equity method				5,889	—	5,889	
Other income (loss)				(1,888 )	—	(1,888 )	
Other expenses				(9,345 )	—	(9,345 )	
Interest expense				(12,736 )	—	(12,736 )	
Net foreign exchange gains (losses)				66,853	(352 )	66,501	
Income (loss) before income taxes				293,474	27,961	321,435	
Income tax expense				(12,678 )	—	(12,678 )	
Net income (loss)				280,796	27,961	308,757	
Dividends attributable to redeemable noncontrolling interests				—	(4,908 )	(4,908 )	
Amounts attributable to noncontrolling interests				—	(20,513 )	(20,513 )	
Net income (loss) available to Arch				280,796	2,540	283,336	
Preferred dividends				(5,484 )	—	(5,484 )	
Net income (loss) available to Arch common shareholders				\$275,312	\$2,540	\$277,852	
<b>Underwriting Ratios</b>							
Loss ratio	62.6	% 40.2	% 27.4	% 53.0	% 68.5	% 54.2	%
Acquisition expense ratio	14.8	% 20.2	% 20.7	% 17.0	% 29.0	% 17.9	%
Other operating expense ratio	17.3	% 13.6	% 40.4	% 17.5	% 2.8	% 16.3	%
Combined ratio	94.7	% 74.0	% 88.5	% 87.5	% 100.3	% 88.4	%

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Goodwill and intangible assets	\$30,526	\$2,687	\$73,532	\$106,745	\$—	\$106,745
Total investable assets				\$14,436,148	\$1,267,588	\$15,703,736
Total assets				21,232,554	1,622,537	22,855,091
Total liabilities				15,041,656	515,535	15,557,191

Certain amounts included in the gross premiums written of each segment are related to intersegment transactions. (1) 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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## ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

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## 6. Investment Information

At March 31, 2016, total investable assets of \$16.66 billion included \$14.95 billion managed by the Company and \$1.71 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, 2016					
Fixed maturities (1):					
Corporate bonds	\$2,869,676	\$49,618	\$(26,280)	\$2,846,338	\$(3,106)
Mortgage backed securities	697,009	10,615	(2,121)	688,515	(3,393)
Municipal bonds	1,605,234	33,497	(1,116)	1,572,853	—
Commercial mortgage backed securities	577,853	8,158	(2,605)	572,300	—
U.S. government and government agencies	2,975,376	27,583	(3,865)	2,951,658	—
Non-U.S. government securities	1,086,128	34,833	(25,743)	1,077,038	—
Asset backed securities	1,392,584	7,051	(12,298)	1,397,831	(69)
Total	11,203,860	171,355	(74,028)	11,106,533	(6,568)
Equity securities	523,078	72,407	(13,925)	464,596	—
Other investments	195,079	22,181	(5,910)	178,808	—
Short-term investments	629,844	479	(2,166)	631,531	—
Total	\$12,551,861	\$266,422	\$(96,029)	\$12,381,468	\$(6,568)
December 31, 2015					
Fixed maturities (1):					
Corporate bonds	\$2,725,729	\$15,978	\$(60,508)	\$2,770,259	\$(3,553)
Mortgage backed securities	754,870	9,872	(5,334)	750,332	(3,350)
Municipal bonds	1,626,281	27,014	(1,534)	1,600,801	—
Commercial mortgage backed securities	764,152	3,269	(6,978)	767,861	—
U.S. government and government agencies	2,423,455	6,228	(9,978)	2,427,205	—
Non-U.S. government securities	917,664	10,414	(39,122)	946,372	—
Asset backed securities	1,620,506	3,307	(12,951)	1,630,150	(22)
Total	10,832,657	76,082	(136,405)	10,892,980	(6,925)
Equity securities	629,182	94,341	(17,796)	552,637	—
Other investments	300,476	43,798	(4,665)	261,343	—
Short-term investments	587,904	187	(3,425)	591,142	—
Total	\$12,350,219	\$214,408	\$(162,291)	\$12,298,102	\$(6,925)

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 (1) 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, 2016, the net unrealized gain related to securities for which a non-credit OTTI was recognized in AOCI

was \$0.6 million, compared to a net unrealized loss of \$1.4 million at December 31, 2015.

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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, 2016						
Fixed maturities (1):						
Corporate bonds	\$410,065	\$(10,070 )	\$140,629	\$(16,210 )	\$550,694	\$(26,280 )
Mortgage backed securities	87,587	(915 )	52,249	(1,206 )	139,836	(2,121 )
Municipal bonds	171,960	(881 )	26,269	(235 )	198,229	(1,116 )
Commercial mortgage backed securities	123,862	(2,140 )	20,306	(465 )	144,168	(2,605 )
U.S. government and government agencies	268,422	(3,865 )	—	—	268,422	(3,865 )
Non-U.S. government securities	258,144	(7,095 )	131,460	(18,648 )	389,604	(25,743 )
Asset backed securities	567,758	(9,603 )	169,161	(2,695 )	736,919	(12,298 )
Total	1,887,798	(34,569 )	540,074	(39,459 )	2,427,872	(74,028 )
Equity securities	192,866	(13,925 )	—	—	192,866	(13,925 )
Other investments	39,127	(5,910 )	—	—	39,127	(5,910 )
Short-term investments	10,208	(2,166 )	—	—	10,208	(2,166 )
Total	\$2,129,999	\$(56,570 )	\$540,074	\$(39,459 )	\$2,670,073	\$(96,029 )
December 31, 2015						
Fixed maturities (1):						
Corporate bonds	\$1,810,988	\$(37,445 )	\$129,896	\$(23,063 )	\$1,940,884	\$(60,508 )
Mortgage backed securities	487,018	(4,508 )	48,991	(826 )	536,009	(5,334 )
Municipal bonds	269,015	(1,303 )	9,692	(231 )	278,707	(1,534 )
Commercial mortgage backed securities	511,261	(6,639 )	20,596	(339 )	531,857	(6,978 )
U.S. government and government agencies	1,991,163	(9,978 )	—	—	1,991,163	(9,978 )
Non-U.S. government securities	458,414	(13,494 )	138,792	(25,628 )	597,206	(39,122 )
Asset backed securities	1,217,163	(9,328 )	134,841	(3,623 )	1,352,004	(12,951 )
Total	6,745,022	(82,695 )	482,808	(53,710 )	7,227,830	(136,405 )
Equity securities	232,275	(17,796 )	—	—	232,275	(17,796 )
Other investments	93,614	(4,665 )	—	—	93,614	(4,665 )
Short-term investments	30,625	(3,425 )	—	—	30,625	(3,425 )
Total	\$7,101,536	\$(108,581 )	\$482,808	\$(53,710 )	\$7,584,344	\$(162,291 )

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 (1) fair value and included the securities pledged under securities lending, at fair value. See “—Securities Lending Agreements.”

At March 31, 2016, on a lot level basis, approximately 1,770 security lots out of a total of approximately 5,700 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 \$2.5 million. At December 31, 2015, on a lot level basis, approximately 3,560 security lots out of a total of approximately 5,550 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 \$3.1 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, 2016		December 31, 2015	
	Estimated Fair Value	Amortized Cost	Estimated Fair Value	Amortized Cost
Due in one year or less	\$282,800	\$283,961	\$337,898	\$341,595
Due after one year through five years	5,233,801	5,199,753	4,644,516	4,677,230
Due after five years through 10 years	2,443,031	2,400,852	2,214,413	2,228,638
Due after 10 years	576,782	563,321	496,302	497,174
	8,536,414	8,447,887	7,693,129	7,744,637
Mortgage backed securities	697,009	688,515	754,870	750,332
Commercial mortgage backed securities	577,853	572,300	764,152	767,861
Asset backed securities	1,392,584	1,397,831	1,620,506	1,630,150
Total (1)	\$11,203,860	\$11,106,533	\$10,832,657	\$10,892,980

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 (1) 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 to the Company.

The Company receives collateral in the form of cash or securities. Cash collateral primarily consists of short-term investments. At March 31, 2016, the fair value of the cash collateral received on securities lending was \$100.3 million and the fair value of security collateral received was \$494.6 million. At December 31, 2015, the fair value of the cash collateral received on securities lending was \$52.7 million, which included \$3.0 million that was reinvested in sub-prime mortgage backed securities, and the fair value of security collateral received was \$336.7 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, 2016					
U.S. government and government agencies	\$393,463	\$—	\$148,013	\$—	\$541,476
Corporate bonds	36,885	—	—	—	36,885
Equity securities	16,561	—	—	—	16,561
Total	\$446,909	\$—	\$148,013	\$—	\$594,922
					\$—

Gross amount of recognized liabilities for securities lending in offsetting disclosure in Note 8  
 Amounts related to securities lending not included in offsetting disclosure in Note 8 \$594,922

December 31, 2015

U.S. government and government agencies	\$235,728	\$—	\$82,286	\$9,598	\$327,612
Corporate bonds	55,086	—	—	—	55,086
Equity securities	6,722	4,424	—	—	11,146
Total	\$297,536	\$4,424	\$82,286	\$9,598	\$393,844

Gross amount of recognized liabilities for securities lending in offsetting disclosure in Note 8 \$—  
 Amounts related to securities lending not included in offsetting disclosure in Note 8 \$393,844



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## ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

## Other Investments

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

	March 31, 2016	December 31, 2015
Available for sale:		
Asian and emerging markets	\$ 112,769	\$ 206,861
Investment grade fixed income	32,515	31,370
Credit related funds	13,609	22,512
Other	36,186	39,733
Total available for sale	195,079	300,476
Fair value option:		
Term loan investments (par value: \$1,237,615 and \$1,197,143)	1,149,249	1,108,017
Mezzanine debt funds	123,696	121,589
Credit related funds	217,122	219,049
Investment grade fixed income	66,050	63,053
Asian and emerging markets	121,232	34,761
Other (1)	115,355	124,502
Total fair value option	1,792,704	1,670,971
Total	\$ 1,987,783	\$ 1,971,447

(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, 2016	December 31, 2015
Fixed maturities	\$ 1,061,398	\$ 936,802
Other investments	1,792,704	1,670,971
Short-term investments	284,793	285,923
Equity securities	437	798
Investments accounted for using the fair value option	\$ 3,139,332	\$ 2,894,494
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.’ Based on the new accounting guidance for consolidation, the Company determined that these limited partnership interests represented variable interests in the funds because the general partner did not have a significant interest in the fund. 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, December 31,	
	2016	2015
Investments accounted for using the equity method (1)	\$ 619,964	\$ 584,158
Investments accounted for using the fair value option (2)	84,394	90,969
Total	\$ 704,358	\$ 675,127

(1) Aggregate unfunded commitments were \$668.4 million at March 31, 2016, compared to \$535.4 million at December 31, 2015.

(2) Aggregate unfunded commitments were \$28.1 million at March 31, 2016, compared to \$22.7 million at December 31, 2015.

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## ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

## Net Investment Income

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

	Three Months Ended	
	March 31,	
	2016	2015
Fixed maturities	\$73,673	\$68,596
Term loan investments	20,012	14,744
Equity securities (dividends)	3,435	2,679
Short-term investments	496	196
Other (1)	13,743	12,747
Gross investment income	111,359	98,962
Investment expenses	(17,624 )	(19,968 )
Net investment income	\$93,735	\$78,994

(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 provisions:

	Three Months Ended	
	March 31,	
	2016	2015
Available for sale securities:		
Gross gains on investment sales	\$107,819	\$97,591
Gross losses on investment sales	(63,131 )	(55,160 )
Change in fair value of assets and liabilities accounted for using the fair value option:		
Fixed maturities	(333 )	(3,302 )
Other investments	(21,548 )	6,287
Equity securities	36	(2 )
Short-term investments	(422 )	5,846
Derivative instruments (1)	20,732	36,676
Other (2)	(5,829 )	(4,588 )
Net realized gains (losses)	\$37,324	\$83,348

(1)See Note 8 for information on the Company's derivative instruments.

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

## 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:

	Three Months Ended	
	March 31,	
	2016	2015
Fixed maturities:		
Mortgage backed securities	\$(473 )	\$(1,072 )
Corporate bonds	(4,880 )	(1,976 )

Non-U.S. government securities	(181 )	—
Asset backed securities	(6 )	—
Total	(5,540 )	(3,048 )
Short-term investments	—	(2,341 )
Equity securities	(1,102 )	(129 )
Other investments	(997 )	(281 )
Net impairment losses recognized in earnings	\$ (7,639 )	\$ (5,799 )

A description of the methodology and significant inputs used to measure the amount of net impairment losses recognized in earnings in the 2016 first quarter is as follows:

Corporate bonds — the Company reviewed the business prospects, credit ratings, estimated loss given default factors, foreign currency impacts and information received from asset managers and rating agencies for certain corporate bonds. Impairment losses for the 2016 first quarter primarily resulted from non-investment grade corporate bonds in the energy sector, reflecting current market conditions;

Equity securities — the Company utilized information received from asset managers on common stocks, including the business prospects, recent events, industry and market data and other factors. Impairment losses for the 2016 first quarter resulted on certain equities which were in an unrealized loss position for a significant length of time;

Other investments — the Company utilized information received from asset managers on investment funds, including the business prospects, recent events, industry and market data and other factors. Impairment losses for the 2016 first quarter were on one fund which was in an unrealized loss position for a significant length of time;

Mortgage backed securities — the Company utilized underlying data provided by asset managers, cash flow projections and additional information from credit agencies in order to determine an expected recovery value for each security. The analysis includes expected cash flow projections under base case and stress case scenarios which modify the expected default expectations and loss severities and slow down prepayment assumptions. The significant inputs in the models include the expected default rates,

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## ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

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delinquency rates and foreclosure costs. Impairment losses for the 2016 first quarter resulted from relatively small adjustments on a number of mortgage backed securities.

The Company believes that the \$6.6 million of OTTI included in accumulated other comprehensive income at March 31, 2016 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, 2016, 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.

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:

	Three Months Ended March 31,	
	2016	2015
Balance at start of period	\$26,875	\$20,196
Credit loss impairments recognized on securities not previously impaired	1,063	4,489
Credit loss impairments recognized on securities previously impaired	522	79
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	(10,169 )	(420 )
Balance at end of period	\$18,291	\$24,344

## 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 9 for further details.

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

	March 31, 2016	December 31, 2015
Assets used for collateral or guarantees:		
Affiliated transactions	\$3,773,948	\$3,810,104
Third party agreements	1,493,873	1,286,257
Deposits with U.S. regulatory authorities	401,964	391,458
Deposits with non-U.S. regulatory authorities	42,374	38,230
Total restricted assets	\$5,712,159	\$5,526,049

## 7. 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.

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## ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

The Company determines the existence of an active market based on its judgment as to whether transactions for the financial instrument occur in such market with sufficient frequency and volume to provide reliable pricing information. The independent pricing sources obtain market quotations and actual transaction prices for securities that have quoted prices in active markets. The Company uses quoted values and other data provided by nationally recognized independent pricing sources as inputs into its process for determining fair values of its fixed maturity investments. To validate the techniques or models used by pricing sources, the Company's review process includes, but is not limited to: (i) quantitative analysis (e.g., comparing the quarterly return for each managed portfolio to its target benchmark, with significant differences identified and investigated); (ii) a review of the average number of prices obtained in the pricing process and the range of resulting fair values; (iii) initial and ongoing evaluation of methodologies used by outside parties to calculate fair value; (iv) a comparison of the fair value estimates to the Company's knowledge of the current market; (v) a comparison of the pricing services' fair values to other pricing services' fair values for the same investments; and (vi) periodic back-testing, which includes randomly selecting purchased or sold securities and comparing the executed prices to the fair value estimates from the pricing service. A price source hierarchy was maintained in order to determine which price source would be used (i.e., a price obtained from a pricing service with more seniority in the hierarchy will be used over a less senior one in all cases). The hierarchy prioritizes pricing services based on availability and reliability and assigns the highest priority to index providers. Based on the above review, the Company will challenge any prices for a security or portfolio which are considered not to be representative of fair value. The Company did not adjust any of the prices obtained from the independent pricing sources at March 31, 2016.

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 \$15.90 billion of financial assets and liabilities measured at fair value at March 31, 2016, approximately \$295.1 million, or 1.9%, were priced using non-binding broker-dealer quotes. Of the \$15.40 billion of financial assets and liabilities measured at fair value at December 31, 2015, approximately \$317.8 million, or 2.1%, 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.

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



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

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

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

Equity securities

The Company determined that exchange-traded equity securities would be included in Level 1 as their fair values are based on quoted market prices in active markets. 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 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

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(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.

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

	Estimated Fair Value	Estimated Fair Value Measurements Using: Quoted Prices for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets measured at fair value (1):				
Available for sale securities:				
Fixed maturities:				
Corporate bonds	\$2,869,676	\$—	\$2,854,510	\$ 15,166
Mortgage backed securities	697,009	—	697,009	—
Municipal bonds	1,605,234	—	1,605,234	—
Commercial mortgage backed securities	577,853	—	577,853	—
U.S. government and government agencies	2,975,376	2,873,646	101,730	—
Non-U.S. government securities	1,086,128	—	1,086,128	—
Asset backed securities	1,392,584	—	1,335,084	57,500
Total	11,203,860	2,873,646	8,257,548	72,666
Equity securities	523,078	521,381	1,697	—
Short-term investments	629,844	601,966	27,878	—
Other investments	86,564	86,564	—	—
Other investments measured at net asset value (2)	108,515	—	—	—
Total other investments	195,079	86,564	—	—
Derivative instruments (4)	33,027	—	33,027	—
Fair value option:				
Corporate bonds	813,488	—	813,488	—
Non-U.S. government bonds	105,813	—	105,813	—
Mortgage backed securities	16,992	—	16,992	—
Asset backed securities	21,725	—	21,725	—
U.S. government and government agencies	103,380	103,380	—	—
Short-term investments	284,793	284,793	—	—
Equity securities	437	437	—	—
Other investments	1,209,626	60,377	1,149,249	—
Other investments measured at net asset value (2)	583,078	—	—	—

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Total	3,139,332	448,987	2,107,267	—
Total assets measured at fair value	\$15,724,220	\$4,532,544	\$10,427,417	\$72,666
Liabilities measured at fair value:				
Contingent consideration liabilities	\$(100,710 )	\$—	\$—	\$(100,710 )
Securities sold but not yet purchased (3)	(48,279 )	—	(48,279 )	—
Derivative instruments (4)	(25,520 )	—	(25,520 )	—
Total liabilities measured at fair value	\$(174,509 )	\$—	\$(73,799 )	\$(100,710 )

(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 6, “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 8, “Derivative Instruments.”

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## ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

The following table presents the Company's financial assets and liabilities measured at fair value by level at December 31, 2015:

	Estimated Fair Value	Estimated Fair Value for Identical Assets (Level 1)	Estimated Fair Value Measurements Using: Quoted Prices for Active Markets for Identical Assets (Level 2)	Estimated Fair Value Measurements Using: Significant Other Observable Inputs (Level 2)	Estimated Fair Value Measurements Using: Significant Unobservable Inputs (Level 3)
Assets measured at fair value (1):					
Available for sale securities:					
Fixed maturities:					
Corporate bonds	\$2,725,729	\$—	\$2,709,361	\$ 16,368	
Mortgage backed securities	754,870	—	754,870	—	
Municipal bonds	1,626,281	—	1,626,281	—	
Commercial mortgage backed securities	764,152	—	764,152	—	
U.S. government and government agencies	2,423,455	2,378,662	44,793	—	
Non-U.S. government securities	917,664	—	917,664	—	
Asset backed securities	1,620,506	—	1,563,006	57,500	
Total	10,832,657	2,378,662	8,380,127	73,868	
Equity securities	629,182	627,441	1,741	—	
Short-term investments	587,904	572,604	15,300	—	
Other investments	99,159	99,159	—	—	
Other investments measured at net asset value (2)	201,317				
Total other investments	300,476	99,159	—	—	
Derivative instruments (4)	20,022	—	20,022	—	
Fair value option:					
Corporate bonds	771,733	—	771,733	—	
Non-U.S. government bonds	81,824	—	81,824	—	
Mortgage backed securities	57,687	—	57,687	—	
Asset backed securities	25,444	—	25,444	—	
U.S. government and government agencies	114	114	—	—	
Short-term investments	285,923	285,923	—	—	
Equity securities	798	798	—	—	
Other investments	1,176,312	68,295	1,108,017	—	
Other investments measured at net asset value (2)	494,659				
Total	2,894,494	355,130	2,044,705	—	
Total assets measured at fair value	\$15,264,735	\$4,032,996	\$10,461,895	\$ 73,868	
Liabilities measured at fair value:					
Contingent consideration liabilities	\$(96,048)	\$—	\$—	\$ (96,048)	

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Securities sold but not yet purchased (3)	(30,583 )	—	(30,583 )	—
Derivative instruments (4)	(11,863 )	—	(11,863 )	—
Total liabilities measured at fair value	\$(138,494 )	\$—	\$(42,446 )	\$(96,048 )

(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 6, “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 8, “Derivative Instruments.”

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## ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

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		
	Asset Backed Securities	Corporate Bonds	Total	Contingent Consideration Liabilities
<b>Three Months Ended March 31, 2016</b>				
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	\$57,500	\$15,166	\$72,666	\$(100,710)
<b>Three Months Ended March 31, 2015</b>				
Balance at beginning of period	\$57,500	\$—	\$57,500	\$(61,845)
Total gains or (losses) (realized/unrealized)				
Included in earnings (1)	—	—	—	(3,548)
Included in other comprehensive income	—	—	—	—
Purchases, issuances, sales and settlements				
Purchases	—	—	—	—
Issuances	—	—	—	(1,068)
Sales	—	—	—	—
Settlements	—	—	—	—
Transfers in and/or out of Level 3	—	—	—	—
Balance at end of period	\$57,500	\$—	\$57,500	\$(66,461)

(1) Gains or losses in the table above 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, 2016, 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, 2016, the senior notes of ACGL were carried at their cost, net of debt issuance costs, of \$296.9 million and had a fair value of \$401.6 million while the senior notes of Arch-U.S. were carried at their cost, net of debt issuance costs, of \$494.5 million and had a fair value of \$538.8 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 value of the senior notes is classified within Level 2.





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## ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

## 8. Derivative Instruments

The Company's investment strategy allows for the use of derivative securities. 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 purchase of a TBA and issuance of the underlying security, the Company's position is accounted for as a derivative. The Company purchases TBAs in both long and short positions to enhance investment performance and as part of its overall investment strategy.

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

	Estimated Fair Value		
	Asset Derivative	Liability Derivatives	Notional Value (1)
March 31, 2016			
Futures contracts (2)	\$4,071	\$(491)	\$2,048,907
Foreign currency forward contracts (2)	23,299	(22,031)	1,190,540
TBAs (3)	126,962	(115,820)	231,996
Other (2)	5,657	(3,481)	2,210,777
Total	\$159,989	\$(141,823)	
December 31, 2015			
Futures contracts (2)	\$2,816	\$(1,202)	\$1,797,115
Foreign currency forward contracts (2)	9,336	(6,344)	773,619
TBAs (3)	6,525	—	6,316
Other (2)	7,870	(4,317)	1,694,935
Total	\$26,547	\$(11,863)	

(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, 2016 or December 31, 2015.

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, 2016, asset derivatives and liability derivatives of \$146.3 million and \$131.7 million, respectively, were subject to a master netting agreement, compared to \$26.5 million and \$11.9 million, respectively, at December 31, 2015. 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:	Three Months Ended	
	March 31,	
Net realized gains (losses):	2016	2015
Futures contracts	\$ 26,451	\$ 19,326
Foreign currency forward contracts	(4,752 )	16,819
TBAs	297	486
Other	(1,264 )	45
Total	\$ 20,732	\$ 36,676

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ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

9. Commitments and Contingencies

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Letter of Credit and Revolving Credit Facilities

As of March 31, 2016, ACGL and its wholly-owned subsidiaries had a \$300.0 million unsecured revolving loan and letter of credit facility and a \$500.0 million secured letter of credit facility (the "Credit Agreement"). Under the terms of the Credit Agreement, Arch Reinsurance Company and Arch Reinsurance Ltd. are limited to issuing an aggregate of \$100.0 million of unsecured letters of credit as part of the unsecured revolving loan. The Credit Agreement expires on June 30, 2019. In addition, certain of ACGL's subsidiaries had outstanding letters of credit of \$242.4 million as of March 31, 2016, which were issued on a limited basis and for limited purposes (together with the secured portion of the Credit Agreement and these letter of credit facilities, the "LOC Facilities"). ACGL and its' subsidiaries which are party to the LOC Facilities were in compliance with all covenants contained in the LOC Facilities at March 31, 2016. At such date, \$437.9 million in letters of credit under the LOC Facilities were outstanding, which were secured by investments with a fair value of \$499.7 million, and had \$100.0 million of borrowings were outstanding under the Credit Agreement. Under the \$500.0 million secured letter of credit facility, ACGL's subsidiaries had remaining capacity of \$304.5 million.

As of March 31, 2016, Watford Re had a \$100.0 million letter of credit facility expiring on May 19, 2016 and an \$800.0 million secured credit facility expiring on June 4, 2018, that provides for borrowings and the issuance of letters of credit not to exceed \$400.0 million. Borrowings of revolving loans may be made by Watford Re at a variable rate based on LIBOR or an alternative base rate at the option of Watford Re. At March 31, 2016, Watford Re had \$167.1 million in outstanding letters of credit under the two facilities and \$357.4 million of borrowings outstanding under the secured credit facility, backed by Watford Re's investment portfolio. Watford Re was in compliance with all covenants contained in both of its credit facilities at March 31, 2016. 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 the reinsurance transactions.

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 \$1.19 billion at March 31, 2016, compared to \$1.11 billion at December 31, 2015.

10. Share Transactions

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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 2016 first quarter, ACGL repurchased 1.1 million common shares for an aggregate purchase price of \$75.3 million, compared to 2.7 million common shares repurchased for an aggregate purchase price of \$162.9 million during the 2015 period. At March 31, 2016, \$446.5 million of share repurchases were available under the program. 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.

11. Income Taxes

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The Company's income tax provision on income before income taxes resulted in an expense of 8.5% for the 2016 first quarter, compared to an expense of 3.9% for the 2015 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.

The Company had a net deferred tax asset of \$123.7 million at March 31, 2016, compared to \$135.7 million at December 31, 2015. In addition, the Company paid \$2.5 million in income taxes for the 2016 first quarter, while the Company paid \$3.6 million for the 2015 period.

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## ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

## 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,		Before Tax Amount	Tax Expense (Benefit)	Net of Tax Amount
		2016	2015			
Unrealized appreciation on available-for-sale investments						
	Net realized gains (losses)	\$44,687	\$42,431			
	Other-than-temporary impairment losses	(7,737 )	(7,247 )			
	Total before tax	36,950	35,184			
	Income tax (expense) benefit	(4,727 )	(4,252 )			
	Net of tax	\$32,223	\$30,932			
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
Three Months Ended March 31, 2015						
Unrealized appreciation (decline) in value of investments:						
	Unrealized holding gains (losses) arising during period			\$94,387	\$10,083	\$84,304
	Portion of other-than-temporary impairment losses recognized in other comprehensive income (loss)			(1,448 )	—	(1,448 )
	Less reclassification of net realized gains (losses) included in net income			35,184	4,252	30,932
	Foreign currency translation adjustments			(23,626 )	(869 )	(22,757 )
	Other comprehensive income (loss)			\$34,129	\$4,962	\$29,167

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## ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

## 13. Guarantor Financial Information

The following tables present condensed financial information for ACG, Arch Capital Group (U.S.) Inc. ("Arch-U.S."), a 100% owned subsidiary of ACG, and ACG's other subsidiaries.

March 31, 2016

Condensed Consolidating Balance Sheet	ACGL (Parent Guarantor)	Arch-U.S. (Subsidiary Issuer)	Other ACGL Subsidiaries	Consolidating Adjustments and Eliminations	ACGL Consolidated
<b>Assets</b>					
Total investments	\$ 110	\$ 42,235	\$ 16,306,543	\$(14,700)	) \$ 16,334,188
Cash	6,795	12,437	538,729	—	) 557,961
Investments in subsidiaries	6,803,490	1,782,957	—	(8,586,447)	) —
Due from subsidiaries and affiliates	5	49,544	388,529	(438,078)	) —
Premiums receivable	—	—	1,749,790	(540,242)	) 1,209,548
Reinsurance recoverable on unpaid and paid losses and loss adjustment expenses	—	—	5,909,286	(3,946,423)	) 1,962,863
Contractholder receivables	—	—	1,529,105	—	) 1,529,105
Prepaid reinsurance premiums	—	—	1,679,707	(1,179,295)	) 500,412
Deferred acquisition costs, net	—	—	464,288	—	) 464,288
Other assets	14,942	46,465	2,523,073	(601,476)	) 1,983,004
Total assets	\$ 6,825,342	\$ 1,933,638	\$ 31,089,050	\$(15,306,661)	) \$ 24,541,369
<b>Liabilities</b>					
Reserve for losses and loss adjustment expenses	\$ —	\$ —	\$ 13,294,397	\$(3,915,410)	) \$ 9,378,987
Unearned premiums	—	—	3,758,443	(1,179,295)	) 2,579,148
Reinsurance balances payable	—	—	817,562	(541,136)	) 276,426
Contractholder payables	—	—	1,529,105	—	) 1,529,105
Collateral held for insured obligations	—	—	249,440	—	) 249,440
Deposit accounting liabilities	—	—	473,140	(207,000)	) 266,140
Senior notes	296,894	494,455	—	—	) 791,349
Revolving credit agreement borrowings	100,000	—	357,431	—	) 457,431
Due to subsidiaries and affiliates	323	35,000	402,755	(438,078)	) —
Other liabilities	14,538	51,956	1,997,667	(424,594)	) 1,639,567
Total liabilities	411,755	581,411	22,879,940	(6,705,513)	) 17,167,593
Redeemable noncontrolling interests	—	—	219,974	(14,700)	) 205,274
<b>Shareholders' Equity</b>					
Total shareholders' equity available to Arch	6,413,587	1,352,227	7,234,221	(8,586,448)	) 6,413,587
Non-redeemable noncontrolling interests	—	—	754,915	—	) 754,915
Total shareholders' equity	6,413,587	1,352,227	7,989,136	(8,586,448)	) 7,168,502
Total liabilities, noncontrolling interests and shareholders' equity	\$ 6,825,342	\$ 1,933,638	\$ 31,089,050	\$(15,306,661)	) \$ 24,541,369



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## ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

Condensed Consolidating Balance Sheet	December 31, 2015			Consolidating Adjustments and Eliminations	ACGL Consolidated
	ACGL (Parent Guarantor)	Arch-U.S. (Subsidiary Issuer)	Other ACGL Subsidiaries		
<b>Assets</b>					
Total investments	\$50	\$42,210	\$15,815,381	\$(14,700)	\$15,842,941
Cash	6,809	17,023	529,494	—	553,326
Investments in subsidiaries	6,609,174	1,712,757	—	(8,321,931)	—
Due from subsidiaries and affiliates	23	48,811	384,469	(433,303)	—
Premiums receivable	—	—	1,376,310	(392,867)	983,443
Reinsurance recoverable on unpaid and paid losses and loss adjustment expenses	—	—	5,783,452	(3,916,079)	1,867,373
Contractholder receivables	—	—	1,486,296	—	1,486,296
Prepaid reinsurance premiums	—	—	1,511,795	(1,084,186)	427,609
Deferred acquisition costs, net	—	—	433,477	—	433,477
Other assets	4,138	45,522	2,119,279	(586,134)	1,582,805
Total assets	\$6,620,194	\$1,866,323	\$29,439,953	\$(14,749,200)	\$23,177,270
<b>Liabilities</b>					
Reserve for losses and loss adjustment expenses	\$—	\$—	\$13,010,608	\$(3,885,358)	\$9,125,250
Unearned premiums	—	—	3,418,118	(1,084,186)	2,333,932
Reinsurance balances payable	—	—	603,586	(379,466)	224,120
Contractholder payables	—	—	1,486,296	—	1,486,296
Collateral held for insured obligations	—	—	248,982	—	248,982
Deposit accounting liabilities	—	—	463,507	(203,143)	260,364
Senior notes	296,874	494,432	—	—	791,306
Revolving credit agreement borrowings	100,000	—	430,434	—	530,434
Due to subsidiaries and affiliates	26	35,000	398,277	(433,303)	—
Other liabilities	18,413	50,890	1,385,500	(427,111)	1,027,692
Total liabilities	415,313	580,322	21,445,308	(6,412,567)	16,028,376
Redeemable noncontrolling interests	—	—	219,882	(14,700)	205,182
<b>Shareholders' Equity</b>					
Total shareholders' equity available to Arch	6,204,881	1,286,001	7,035,932	(8,321,933)	6,204,881
Non-redeemable noncontrolling interests	—	—	738,831	—	738,831
Total shareholders' equity	6,204,881	1,286,001	7,774,763	(8,321,933)	6,943,712
Total liabilities, noncontrolling interests and shareholders' equity	\$6,620,194	\$1,866,323	\$29,439,953	\$(14,749,200)	\$23,177,270





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## ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

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	—	—	170,465	—	170,465
Other operating expenses	9,355	582	151,715	—	161,652
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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## ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

	Three Months Ended March 31, 2015				
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	\$—	\$—	\$ 910,264	\$—	\$ 910,264
Net investment income	—	5	86,010	(7,021	) 78,994
Net realized gains (losses)	—	—	83,348	—	83,348
Net impairment losses recognized in earnings	—	—	(5,799	) —	(5,799 )
Other underwriting income	—	—	11,536	—	11,536
Equity in net income (loss) of investment funds accounted for using the equity method	—	—	5,889	—	5,889
Other income (loss)	—	—	(1,888	) —	(1,888 )
Total revenues	—	5	1,089,360	(7,021	) 1,082,344
Expenses					
Losses and loss adjustment expenses	—	—	493,716	—	493,716
Acquisition expenses	—	—	163,076	—	163,076
Other operating expenses	8,632	1,259	147,991	—	157,882
Interest expense	5,856	6,366	7,535	(7,021	) 12,736
Net foreign exchange (gains) losses	—	—	(39,630	) (26,871	) (66,501 )
Total expenses	14,488	7,625	772,688	(33,892	) 760,909

Income (loss) before income taxes	(14,488 )	(7,620 )	316,672	26,871	321,435
Income tax (expense) benefit	—	1,413	(14,091 )	—	(12,678 )
Income (loss) before equity in net income of subsidiaries	(14,488 )	(6,207 )	302,581	26,871	308,757
Equity in net income of subsidiaries	297,824	14,495	—	(312,319 )	—
Net income	283,336	8,288	302,581	(285,448 )	308,757
Net (income) loss attributable to noncontrolling interests	—	—	(25,421 )	—	(25,421 )
Net income available to Arch	283,336	8,288	277,160	(285,448 )	283,336
Preferred dividends	(5,484 )	—	—	—	(5,484 )
Net income available to Arch common shareholders	\$ 277,852	\$ 8,288	\$ 277,160	\$ (285,448 )	\$ 277,852
Comprehensive income (loss) available to Arch	\$ 312,503	\$ 11,750	\$ 333,193	\$ (344,943 )	\$ 312,503

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## ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

Three Months Ended March 31, 2016

Condensed Consolidating Statement of Cash Flows	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)	\$83,892	\$ (4,740 )	\$ 340,558	\$ (97,167 )	\$ 322,543
Operating Activities					
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
	—	—	163,894	—	163,894

Proceeds from redemptions and maturities of fixed maturity investments					
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 )
Change in other assets	—	—	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) Included in net cash provided by (used for) operating activities in the ACGL (Parent Guarantor) column.



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## ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

Three Months Ended March 31, 2015

Condensed Consolidating Statement of Cash Flows	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)	\$173,508	\$ (8,950 )	\$ 106,903	\$ (186,000 )	\$ 85,461
Operating Activities Investing Activities Purchases of fixed maturity investments	—	—	(7,030,731 )	—	(7,030,731 )
Purchases of equity securities	—	—	(125,863 )	—	(125,863 )
Purchases of other investments	—	—	(375,402 )	—	(375,402 )
Proceeds from the sales of fixed maturity investments	—	9,001	6,848,114	—	6,857,115
Proceeds from the sales of equity securities	—	—	125,906	—	125,906
Proceeds from the sales, redemptions and maturities of other investments	—	—	269,449	—	269,449
	—	—	272,657	—	272,657

Proceeds from redemptions and maturities of fixed maturity investments					
Net settlements of derivative instruments	—	—	26,063	—	26,063
Net (purchases) sales of short-term investments	83	(16	) 66,216	—	66,283
Change in cash collateral related to securities lending	—	—	(5,529	) —	(5,529
Contributions to subsidiaries	—	—	(5,500	) 5,500	—
Intercompany loans issued	—	(7,500	) (7,500	) 15,000	—
Purchase of business, net of cash acquired	—	—	(2,432	) —	(2,432
Purchases of fixed assets	(23	) —	(3,249	) —	(3,272
Change in other assets	—	—	(29,625	) —	(29,625
Net Cash Provided By (Used For)	60	1,485	22,574	20,500	44,619
Investing Activities					
Financing Activities					
Purchases of common shares	(162,898	) —	—	—	(162,898

under share repurchase program Proceeds from common shares issued, net	(412	) —	5,500	(5,500	) (412	)
Proceeds from intercompany borrowings	—	7,500	7,500	(15,000	) —	
Change in cash collateral related to securities lending	—	—	5,529	—	5,529	
Dividends paid to redeemable— noncontrolling interests	—	—	(4,816	) —	(4,816	)
Dividends paid to parent (1)	—	—	(186,000	) 186,000	—	
Other	—	—	29,779	—	29,779	
Preferred dividends paid	(5,484	) —	—	—	(5,484	)
Net Cash Provided By (Used For)	(168,794	) 7,500	(142,508	) 165,500	(138,302	)
Financing Activities Effects of exchange rates changes on foreign currency cash	—	—	(6,468	) —	(6,468	)
Increase (decrease) in cash	4,774	35	(19,499	) —	(14,690	)
Cash beginning of year	3,218	2,787	479,697	—	485,702	
Cash end of period	\$ 7,992	\$ 2,822	\$ 460,198	\$ —	\$ 471,012	

(1) Included in net cash provided by (used for) operating activities in the ACGL (Parent Guarantor) column.

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ARCH CAPITAL GROUP LTD. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

14. Legal Proceedings

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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, 2016, the Company was not a party to any litigation or arbitration which is expected by management to have a material adverse effect on the Company's results of operations and financial condition and liquidity.

15. Transactions with Related Parties

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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, 2016, the Company had aggregate commitments of \$770.9 million to funds managed by Carlyle, of which \$523.4 million was unfunded. The Company may make additional commitments to funds managed by Carlyle from time to time. The Company made aggregate capital contributions to funds managed by Carlyle of \$40.1 million in the 2016 first quarter, compared to \$23.4 million in the 2015 first quarter.

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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, 2015 ("2015 Form 10-K"). In addition, readers should review "Risk Factors" set forth in Item 1A of Part I of our 2015 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 \$7.30 billion in capital at March 31, 2016 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

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The broad market environment continues to be competitive in our business, consistent with our view in the 2015 fourth quarter. Pressure on pricing and terms and conditions was modest in our insurance segment while our reinsurance segment experienced moderate pressure. This has led us to continue to reduce writings in certain property casualty lines in the 2016 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 is experiencing favorable market conditions, although competitive forces are increasing. Arch Mortgage Insurance Company ("Arch MI U.S.") continues to expand into the U.S. mortgage insurance marketplace. As of March 31, 2016, Arch MI U.S. reviewed and approved 975 master policy applications from banks, with 49 national accounts and the balance consisting of regional banks. In addition, RateStar, our risk-based pricing program, has met with wide acceptance from banks and credit union clients. RateStar uses a combination of loan characteristics and other risk factors to determine premium rates for each loan. International business and credit risk-sharing transactions continue to provide growth opportunities for our mortgage operations.

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

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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, 2016, our modeled peak zone catastrophe exposure was a windstorm affecting the Northeastern U.S., with a net probable maximum pre-tax loss of \$494 million, followed by windstorms affecting the Gulf of Mexico and Florida Tri-County regions with net probable maximum pre-tax losses of \$438 million and \$385 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, 2016,

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our modeled peak zone earthquake exposure (Los Angeles earthquake) represented approximately 61% 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—Risk 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 2015 Form 10-K.

FINANCIAL MEASURES

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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 \$49.87 at March 31, 2016, compared to \$47.95 at December 31, 2015 and \$47.80 at March 31, 2015. The 4.0% increase in the 2016 first quarter

reflected strong underwriting and investment returns, while the 4.3% increase over the trailing twelve months reflected strong underwriting returns and mixed results on investments.

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 and net foreign exchange gains or losses, net of income taxes. Management uses Operating ROAE as a key measure of the return generated to common shareholders and has set an objective to achieve an average Operating ROAE of 15% or greater over the insurance cycle, which it believes to be an attractive return to common shareholders given the risks we assume. See "Comment on Non-GAAP Financial Measures."

Our Operating ROAE was 9.7% for the 2016 first quarter, compared to 10.2% for the 2015 first quarter. Operating ROAE for the 2016 first quarter reflected a lower level of underwriting income and a higher level of average common equity compared to the 2015 first quarter.

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, excluding amounts reflected in the 'other' segment, and reflects the effect of financial market conditions along with foreign currency fluctuations. 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.

The following table summarizes the pre-tax total return (before investment expenses) of investments managed by Arch compared to the benchmark return against which we measured our portfolio during the periods:

	Arch Portfolio	Return	Benchmark Return	
2016 first quarter	1.82	%	2.43	%
2015 first quarter	1.11	%	0.29	%

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Total return for the 2016 first quarter reflected strong returns on fixed income securities, both investment-grade and non-investment grade, which were partially offset by negative returns on equities and on private credit and private equity funds. Excluding the effects of foreign exchange, total return was 1.48% for the 2016 first quarter, reflecting the impact of the U.S. Dollar weakening against the Euro, Canadian Dollar, Australian Dollar and other major currencies on non-U.S. Dollar denominated investments.

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 the currency mix as 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, 2016, the benchmark return index had an average credit quality of “Aa2” by Moody’s Investors Service (“Moody’s”), and an estimated duration of 3.43 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 AA U.S. Corporate & Yankees Index	21.25 %
BoAML 1-5 Year U.S. Treasury Index	13.00
BoAML U.S. Mortgage Backed Securities Index	10.00
BoAML 3-5 Year Fixed Rate Asset Backed Securities Index	7.00
BoAML 1-10 Year U.S. Municipal Securities Index	7.00
BoAML U.S. High Yield Constrained Index	5.50
BoAML 0-3 Month U.S. Treasury Bill Index	5.00
Barclays Capital CMBS Inv. Grade, AAA Rated Index	5.00
Barclays Capital Agency Bullet, 10-10 Year Index	5.00
MSCI All Country World Gross Total Return Index	5.00
BoAML 1-10 Year Euro Government Index	4.50
BoAML 5-10 Year U.S. Treasury Index	3.25
BoAML 1-5 Year U.K. Gilt Index	3.00
BoAML 1-10 Year Australian Governments Index	2.50
BoAML 1-5 Year Canada Government Index	1.50
BoAML Euro Government Index	1.00
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 and net foreign exchange gains or losses, net of income taxes. The presentation of after-tax operating income available to Arch common shareholders is a “non-GAAP financial measure” as defined in Regulation G. The reconciliation of such measure to net income available to Arch common shareholders (the most directly comparable GAAP financial measure) 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 and net foreign exchange gains or losses 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. 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 and net foreign

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exchange gains or losses 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.

In addition, our presentation includes the use of information prepared on a 'core' basis, which excludes amounts related to the 'other' segment (i.e., results of Watford Re). Information provided on a 'core' basis are non-GAAP financial measures as defined in Regulation G. 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 information on a 'core' basis enables investors and other users of our financial information to analyze our performance in a manner similar to how our management analyzes performance. See note 5, "Segment Information," of the notes accompanying our consolidated financial statements for a reconciliation of core and consolidated results.

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 core underwriting performance of each of our underwriting segments.

**RESULTS OF OPERATIONS**

The following table summarizes, on an after-tax basis, our consolidated financial data, including a reconciliation of after-tax operating income available to Arch common shareholders to net income available to Arch common shareholders:

	Three Months Ended March 31,	
	2016	2015
After-tax operating income available to Arch common shareholders	\$ 145,742	\$ 149,846
Net realized gains (losses), net of tax	26,901	61,934
Net impairment losses recognized in earnings, net of tax	(7,639 )	(5,799 )
Equity in net income (loss) of investment funds accounted for using the equity method, net of tax	6,475	5,532
Net foreign exchange gains (losses), net of tax	(22,165 )	66,339
Net income available to Arch common shareholders	\$ 149,314	\$ 277,852

**Segment Information**

We classify our businesses into three underwriting segments — insurance, reinsurance and mortgage — and two other operating segments — 'other' and corporate (non-underwriting). 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 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 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. The corporate (non-underwriting) segment results include net investment income, other income (loss), other expenses incurred by us, interest expense, 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, income taxes and items related to our non-cumulative

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preferred shares. Such amounts exclude the results of the ‘other’ segment.

The mortgage segment includes the results of Arch MI U.S. and Arch Mortgage Insurance Designated Activity Company, leading providers of mortgage insurance products and services to the U.S. and European markets, respectively. Arch MI U.S. is approved as an eligible mortgage insurer by Federal National Mortgage Association (“Fannie Mae”) and Federal Home Loan Mortgage Corporation (“Freddie Mac”), each a government sponsored enterprise, or “GSE.” The mortgage segment also includes GSE credit risk-sharing transactions and mortgage reinsurance for the U.S. and Australian markets.

In March 2014, we 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 variable interest entity (“VIE”) and we concluded that we are the primary beneficiary of Watford Re. As such, the results of Watford Re are included in our consolidated financial statements. The ‘other’ segment includes the results of Watford Re. Watford Re has its own management and board of directors that is responsible for the overall profitability of its results. The portion of Watford Re’s earnings attributable to third party investors is recorded in the consolidated statements of income as ‘amounts attributable to noncontrolling interests.’ For the ‘other’ segment, performance is measured based on net income or loss.

**Insurance Segment**

The following table sets forth our insurance segment’s underwriting results:

	Three Months Ended March 31,		
	2016	2015	% Change
Gross premiums written	\$798,553	\$766,153	4.2
Premiums ceded	(248,789 )	(224,150 )	
Net premiums written	549,764	542,003	1.4
Change in unearned premiums	(36,675 )	(34,089 )	
Net premiums earned	513,089	507,914	1.0
Other underwriting income	—	427	
Losses and loss adjustment expenses	(323,609 )	(317,896 )	
Acquisition expenses, net	(74,354 )	(75,078 )	
Other operating expenses	(85,861 )	(88,119 )	
Underwriting income	\$29,265	\$27,248	7.4

Underwriting Ratios	% Point Change		
Loss ratio	63.1	% 62.6	% 0.5
Acquisition expense ratio	14.5	% 14.8	% (0.3 )
Other operating expense ratio	16.7	% 17.3	% (0.6 )
Combined ratio	94.3	% 94.7	% (0.4 )

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'

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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,			
	2016		2015	
	Amount	%	Amount	%
Professional lines	\$109,467	19.9	\$111,178	20.5
Construction and national accounts Programs	104,474	19.0	96,503	17.8
Travel, accident and health	89,784	16.3	118,197	21.8
Excess and surplus casualty	57,263	10.4	38,912	7.2
Property, energy, marine and aviation	53,657	9.8	49,370	9.1
Lenders products	49,975	9.1	58,667	10.8
Other	24,784	4.5	22,816	4.2
Total	60,360	11.0	46,360	8.6
	\$549,764	100.0	\$542,003	100.0

2016 First Quarter versus 2015 First Quarter. Gross premiums written by the insurance segment in the 2016 first quarter were 4.2% higher than in the 2015 first quarter, while net premiums written were 1.4% higher than in the 2015 first quarter. The higher growth in gross premiums written than net premiums written reflects expansion in business subject to a greater level of cessions, primarily in alternative markets and construction. The increase in net premiums written reflected growth in travel, accident and health, construction and alternative markets business, partially offset by a reduction in programs and property lines. The growth in travel, accident and health reflected expansion in international and U.S. travel business, while the increase in construction primarily reflected new accounts and the increase in alternative markets resulted from new accounts, exposure growth and audit premiums. The reduction in program business primarily reflected the non-renewal of a large program while the lower level in property lines reflected continued weak market conditions. Changes in foreign currency rates resulted in a decrease in net premiums written in the 2016 first quarter of approximately \$6.1 million, or 1.1%, compared to the 2015 first quarter.

**Net Premiums Earned.**

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

	Three Months Ended March 31,			
	2016		2015	
	Amount	%	Amount	%
Professional lines	\$104,944	20.5	\$107,872	21.2
Construction and national accounts Programs	77,043	15.0	72,230	14.2
Travel, accident and health	98,501	19.2	115,964	22.8
Excess and surplus casualty	47,545	9.3	33,732	6.6
Property, energy, marine and aviation	54,965	10.7	52,347	10.3
Lenders products	49,037	9.6	55,081	10.8
Other	24,402	4.8	22,859	4.5
Total	56,652	11.0	47,829	9.4
	\$513,089	100.0	\$507,914	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 in the 2016 first quarter were 1.0% higher than in the 2015 first quarter. Net premiums earned reflect changes in net premiums written over the previous five quarters.

**Losses and Loss Adjustment Expenses.**

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



	Three Months Ended	
	March 31,	
	2016	2015
Current year	64.3 %	64.3 %
Prior period reserve development	(1.2 )%	(1.7 )%
Loss ratio	63.1 %	62.6 %

**Current Year Loss Ratio.**

The insurance segment's current year loss ratio in the 2016 first quarter was equal to the 2015 first quarter ratio. The 2016 first quarter loss ratio reflected 0.1 points of current year catastrophic activity, compared to 0.6 points in the 2015 first quarter. The balance of the change in the 2016 first quarter primarily resulted from changes in the mix of business.

**Prior Period Reserve Development.**

2016 First Quarter: The insurance segment's net favorable development of \$6.2 million, or 1.2 points, 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 (i.e., the year in which a loss occurred). Net favorable development in short-tailed

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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. Such amount included \$3.2 million of favorable development on the 2005 to 2015 named catastrophic events. 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.

2015 First Quarter: The insurance segment's net favorable development of \$8.8 million, or 1.7 points, consisted of \$12.0 million of net favorable development in short-tailed lines and \$3.2 million of net adverse development in medium-tailed and long-tailed lines. Favorable development in short-tailed lines primarily consisted of reductions in property (including special risk other than marine) reserves from the 2010 to 2013 accident years, primarily due to varying levels of reported claims activity. Such amounts included \$3.7 million of favorable development on the 2005 to 2014 named catastrophic events. Net adverse development in medium-tailed and long-tailed lines reflected an increase in programs of \$8.4 million, primarily resulting from higher reported losses in the 2012 to 2014 accident years, partially offset by reductions in the 2006 to 2010 accident years. In addition, the insurance segment's results reflected net favorable development in professional lines of \$2.4 million, including favorable development in executive assurance and healthcare reserves across most accident years, partially offset by an increase in professional liability reserves on international business.

Underwriting Expenses.

2016 First Quarter versus 2015 First Quarter: The insurance segment's underwriting expense ratio was 31.2% in the 2016 first quarter, compared to 32.1% in the 2015 first quarter. The comparison of the underwriting expense ratios and the underlying acquisition expense and other operating expense ratios reflects an increase in the level of reinsurance ceded on a quota share basis in the 2016 first quarter and changes in the mix of business.

### Reinsurance Segment

The following table sets forth our reinsurance segment's underwriting results:

	Three Months Ended March 31,		
	2016	2015	% Change
Gross premiums written	\$481,390	\$485,112	(0.8 )
Premiums ceded	(160,566 )	(136,569 )	
Net premiums written	320,824	348,543	(8.0 )
Change in unearned premiums	(59,616 )	(68,826 )	
Net premiums earned	261,208	279,717	(6.6 )
Other underwriting income	325	1,429	
Losses and loss adjustment expenses	(111,598 )	(112,532 )	
Acquisition expenses, net	(54,787 )	(56,604 )	
Other operating expenses	(36,455 )	(38,044 )	
Underwriting income	\$58,693	\$73,966	(20.6 )

Underwriting Ratios			% Point Change
Loss ratio	42.7	% 40.2	% 2.5
Acquisition expense ratio	21.0	% 20.2	% 0.8
Other operating expense ratio	14.0	% 13.6	% 0.4
Combined ratio	77.7	% 74.0	% 3.7

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.

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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,			
	2016		2015	
	Amount	%	Amount	%
Casualty	\$126,483	39.4	\$117,858	33.8
Other specialty	100,820	31.4	101,148	29.0
Property excluding property catastrophe	73,723	23.0	89,924	25.8
Marine and aviation	17,540	5.5	20,844	6.0
Property catastrophe	(2,295 )	(0.7 )	15,443	4.4
Other	4,553	1.4	3,326	1.0
Total	\$320,824	100.0	\$348,543	100.0
Pro rata	\$112,209	35.0	\$130,235	37.4
Excess of loss	208,615	65.0	218,308	62.6
Total	\$320,824	100.0	\$348,543	100.0

2016 First Quarter versus 2015 First Quarter. Gross premiums written by the reinsurance segment in the 2016 first quarter were 0.8% lower than in the 2015 first quarter, while net premiums written were 8.0% lower than in the 2015 first quarter. The difference in gross versus net premiums written primarily reflects increased retrocessions on property and other lines and changes in the mix of business. The lower level of net premiums written reflected decreases in property excluding property catastrophe and property catastrophe business, partially offset by growth in casualty business. The decrease in property lines reflected share decreases and timing of renewals in response to current market conditions and a higher level of retrocessional usage. Growth in casualty business reflected exposure growth and new business. Changes in foreign currency rates resulted in a decrease in net premiums written in the 2016 first quarter of approximately \$4.3 million, or 1.2%, compared to the 2015 first quarter.

**Net Premiums Earned.**

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

	Three Months Ended March 31,			
	2016		2015	
	Amount	%	Amount	%
Casualty	\$76,053	29.1	\$73,381	26.2
Other specialty	74,249	28.4	83,798	30.0
Property excluding property catastrophe	71,953	27.5	79,764	28.5
Marine and aviation	17,878	6.8	12,613	4.5
Property catastrophe	17,953	6.9	27,270	9.7
Other	3,122	1.2	2,891	1.0
Total	\$261,208	100.0	\$279,717	100.0
Pro rata	\$139,693	53.5	\$153,515	54.9
Excess of loss	121,515	46.5	126,202	45.1

Total \$261,208 100.0 \$279,717 100.0

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 2016 first quarter were 6.6% lower than in the 2015 first quarter. Net premiums earned reflect 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,			
	2016		2015	
Current year	60.8	%	60.9	%
Prior period reserve development	(18.1)	)%	(20.7)	)%
Loss ratio	42.7	%	40.2	%

Current Year Loss Ratio.

The reinsurance segment's current year loss ratio in the 2016 first quarter was 0.1 points lower than in the 2015 first quarter. The 2016 first quarter loss ratio reflected 1.4 points of current year catastrophic activity, compared to 0.6 points in the 2015 first quarter. The current year loss ratio for the 2016 first quarter reflected changes in the mix of business earned due, in part, to a lower contribution from property catastrophe business.

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## Prior Period Reserve Development.

2016 First Quarter: The reinsurance segment's net favorable development of \$47.4 million, or 18.1 points, 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, 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). Such amount included \$3.1 million of favorable development from the 2005 to 2015 named catastrophic events. The net reduction of loss estimates for the reinsurance segment's short-tailed lines primarily resulted from varying 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.

2015 First Quarter: The reinsurance segment's net favorable development of \$58.0 million, or 20.7 points, consisted of \$39.2 million from short-tailed lines and \$18.8 million from long-tailed and medium-tailed lines. Favorable development in short-tailed lines included \$27.5 million from property catastrophe and property other than property catastrophe reserves, primarily from the 2012 to 2014 underwriting years. Such amount included \$2.1 million of favorable development from the 2005 to 2014 named catastrophic events. The net reduction of loss estimates for the reinsurance segment's short-tailed lines primarily resulted from varying 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 \$16.3 million and a reduction of \$3.0 million in marine and aviation reserves based on varying levels of reported and paid claims activity, across all underwriting years.

## Underwriting Expenses.

2016 First Quarter versus 2015 First Quarter: The underwriting expense ratio for the reinsurance segment was 35.0% in the 2016 first quarter, compared to 33.8% in the 2015 first quarter. The acquisition expense ratio for the 2016 first quarter was 21.0%, compared to 20.2% for the 2015 first quarter. The 2016 first quarter ratio reflected a higher level of ceding commissions incurred compared to the 2015 first quarter and changes in the mix and type of business. The operating expense ratio for the 2016 first quarter was 14.0%, compared to 13.6% in the 2015 first quarter, primarily reflecting the lower level of net premiums earned.

## Mortgage Segment

The following table sets forth our mortgage segment's underwriting results:

	Three Months Ended March 31,		
	2016	2015	% Change
Gross premiums written	\$111,280	\$60,541	83.8
Premiums ceded	(4,767 )	(8,670 )	
Net premiums written	106,513	51,871	105.3
Change in unearned premiums	(44,748 )	(1,504 )	
Net premiums earned	61,765	50,367	22.6
Other underwriting income	3,793	7,718	
Losses and loss adjustment expenses	(8,629 )	(13,809 )	
Acquisition expenses, net	(8,385 )	(10,418 )	
Other operating expenses	(24,615 )	(20,369 )	
Underwriting income	\$23,929	\$13,489	77.4

Underwriting Ratios			% Point Change
Loss ratio	14.0	% 27.4	% (13.4 )
Acquisition expense ratio	13.6	% 20.7	% (7.1 )

Other operating expense ratio	39.9	% 40.4	% (0.5	)
Combined ratio	67.5	% 88.5	% (21.0	)

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,			
	2016		2015	
	Amount	%	Amount	%
Client location:				
United States	\$55,803	52.4	\$45,822	88.3
Other	50,710	47.6	6,049	11.7
Total	\$106,513	100.0	\$51,871	100.0

Underwriting location:

United States	\$35,330	33.2	\$27,956	53.9
Other	71,183	66.8	23,915	46.1
Total	\$106,513	100.0	\$51,871	100.0

2016 First Quarter versus 2015 First Quarter. Net premiums written for the 2016 first quarter were 105.3% higher than in the 2015 first quarter, reflecting \$43.5 million of growth in Australian mortgage reinsurance business. In addition, net premiums written in the 2016 first quarter reflected growth in U.S. primary business of \$5.4 million, primarily from banks and other mortgage originators, and an increase in GSE credit risk-sharing transactions receiving insurance accounting treatment. 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 74.2% at March 31, 2016, compared to 75.6% at December 31, 2015. The decline in persistency was due to

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policy terminations reflecting mortgage refinance activity and the continuing low interest rate environment.

Arch MI U.S. generated \$2.91 billion of new insurance written (“NIW”) during the 2016 first quarter, of which approximately 69% was from banks and other non-credit union mortgage originators. NIW represents the original principal balance of all loans that received coverage during the period.

Net Premiums Earned.

The following table sets forth our mortgage segment’s net premiums earned by client location and underwriting location:

	Three Months Ended March			
	31, 2016		2015	
	Amount	%	Amount	%
Client Location:				
United States	\$57,132	92.5	\$48,075	95.4
Other	4,633	7.5	2,292	4.6
Total	\$61,765	100.0	\$50,367	100.0

Underwriting location:

United States	\$32,520	52.7	\$25,519	50.7
Other	29,245	47.3	24,848	49.3
Total	\$61,765	100.0	\$50,367	100.0

Net premiums earned for the 2016 periods were higher than in the 2015 periods, primarily due to the growth in insurance in force for Arch MI U.S. along with a higher earned contribution from the mortgage segment’s quota share reinsurance business.

Other Underwriting Income.

Other underwriting income, which is primarily related to GSE risk-sharing transactions receiving derivative accounting treatment, was \$3.8 million for the 2016 first quarter, compared to \$7.7 million for the 2015 first quarter, and comparable with the \$3.5 million recorded in the 2015 fourth quarter. The 2015 first quarter amount included approximately \$3.4 million of catch up income due to the timing of the insurance product and securitization transactions.

Losses and Loss Adjustment Expenses.

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

	Three Months	
	Ended	
	March 31,	
	2016	2015
Current year	18.4 %	32.6 %
Prior period reserve development	(4.4 )%	(5.2 )%
Loss ratio	14.0 %	27.4 %

Unlike property and casualty business for which we estimate ultimate losses on premiums earned, losses on mortgage

insurance business are only recorded at the time a borrower is delinquent on their mortgage, in accordance with mortgage insurance industry practice. Because our mortgage insurance reserving process does not take into account the impact of future losses from loans that are not in default, mortgage insurance loss reserves are not an estimate of ultimate losses. In addition to establishing loss reserves for loans in default, under GAAP, we are required to establish a premium deficiency reserve for our mortgage insurance products if the amount of expected future losses for a particular product and maintenance costs for such product exceeds expected future premiums, existing reserves and the anticipated investment income for such product. We evaluate whether a premium deficiency exists quarterly. No such reserve was established in the 2016 first quarter.



The mortgage segment's current year loss ratio was 14.2 points lower in the 2016 first quarter compared to the 2015 first quarter. The current year loss ratio for the 2016 first quarter reflect higher premiums driven by growth in insurance in force, when compared to the 2015 first quarter, and the impact of a decrease in the number of delinquent loans and a lower claim rate on such loans. The mortgage segment's net favorable development for the 2016 first quarter of \$2.7 million, or 4.4 points was spread across a number of origination years.

Underwriting Expenses.

2016 First Quarter versus 2015 First Quarter. The underwriting expense ratio for the mortgage segment was 53.5% in the 2016 first quarter, compared to 61.1% in the 2015 first quarter. The acquisition expense ratio was 13.6% for the 2016 first quarter, compared to 20.7% for the 2015 first quarter. The operating expense ratio was 39.9% for the 2016 first quarter, compared to 40.4% in the 2015 first quarter. The underwriting expense ratio is expected to stay at an elevated rate until Arch MI U.S. reaches scale.

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## Other Segment

As noted earlier, the ‘other’ segment includes the results of Watford Re. 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. The following table sets forth the results of our ‘other’ segment:

	Three Months Ended			
	March 31,			
	2016	2015		
Gross premiums written	\$ 148,606	\$ 128,633		
Premiums ceded	(4,472 )	(4,055 )		
Net premiums written	144,134	124,578		
Change in unearned premiums	(28,617 )	(52,312 )		
Net premiums earned	115,517	72,266		
Other underwriting income	929	1,962		
Losses and loss adjustment expenses	(79,113 )	(49,479 )		
Acquisition expenses, net	(32,939 )	(20,976 )		
Other operating expenses	(5,338 )	(2,005 )		
Underwriting income (loss)	(944 )	1,768		
Net investment income	23,326	8,706		
Other expenses	—	—		
Net realized gains (losses)	5,462	17,839		
Interest expense	(3,480 )	—		
Net foreign exchange gains (losses)	(1,525 )	(352 )		
Net income (loss)	22,839	27,961		
Dividends attributable to redeemable noncontrolling interests (1)	(4,587 )	(4,908 )		
Net income (loss) attributable to common interests	18,252	23,053		
Amounts attributable to nonredeemable noncontrolling interests (1)	(16,242 )	(20,513 )		
Net income (loss) available to Arch	\$ 2,010	\$ 2,540		
Underwriting Ratios				
Loss ratio	68.5	% 68.5	%	
Acquisition expense ratio	28.5	% 29.0	%	
Other operating expense ratio	4.6	% 2.8	%	
Combined ratio	101.6	% 100.3	%	
Total investable assets	\$ 1,709,862	\$ 1,267,588		
Total assets	2,323,382	1,622,537		
Total liabilities	1,254,984	515,535		

(1) Recorded as ‘net (income) loss attributable to noncontrolling interests’ in the consolidated statements of income.

## Other Revenue or Expense Items

The following revenue and expense items are discussed on a ‘core’ basis. Amounts presented on a ‘core’ basis, which are non-GAAP measures, exclude amounts related to the ‘other’ segment (i.e., results of Watford Re). See ‘Comments on Non-GAAP Financial Measures’ for a further discussion of the presentation of ‘core’ results and note 5, “Segment Information,” of the notes accompanying our consolidated financial statements for a reconciliation of ‘core’ and consolidated results.

## Net Investment Income

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

Three Months Ended  
March 31,

	2016	2015
Fixed maturities	\$ 59,001	\$ 62,368
Term loan investments	4,858	4,275
Equity securities	3,756	2,679
Short-term investments	458	195
Other (1)	13,672	12,737
Gross investment income	81,745	82,254
Investment expenses (2)	(11,336 )	(11,966 )
Net investment income	\$ 70,409	\$ 70,288

(1) Amounts include dividends and interest distributions on investment funds and other items.

(2) Investment expenses were approximately 0.33% of average invested assets for the 2016 first quarter, compared to 0.42% for the 2015 first quarter.

The pre-tax investment income yield, calculated based on amortized cost and on an annualized basis, was 2.13% for the 2016 first quarter, compared to 2.09% for the 2015 first quarter. The comparability of net investment income between the periods was influenced by our share repurchase program, as well as the effects of low prevailing interest rates available in the market. Yields in the future may vary based on financial market conditions, investment allocation decisions and other factors.

#### Other Income (Loss)

We record income or loss from certain investments using the equity method on a three month lag basis based on the availability of their financial statements, including income or loss on our investment in Gulf Reinsurance Limited (“Gulf Re”) for the period prior to the closing of our acquisition of Gulf Re on May 14, 2015. In addition, other income (loss) from time to time includes certain non-recurring items. We recorded minimal activity in the 2016 first quarter, compared to a loss of \$1.9 million for the 2015 first quarter. The 2015 first quarter amount primarily related to Gulf Re.

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

We recorded \$6.7 million of equity in net income related to investment funds accounted for using the equity method in the 2016 first quarter, compared to \$5.9 million of equity in net income for the 2015 first quarter. We use the equity method on certain investment funds due to their ownership structure, which are typically structured as limited partnerships, where we do not have a controlling interest and are not the primary beneficiary. 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). Such investments are generally recorded on a one to three month lag based on the availability of reports from the investment funds. Certain of these funds employ leverage to achieve a higher rate of return on their assets under management. While leverage presents opportunities for increasing the total return of such investments, it may increase losses as well. Fluctuations in the carrying value of the investment funds accounted for using the equity method may increase the volatility of our reported results of operations. Investment funds accounted for using the equity method totaled \$628.8 million at March 31, 2016, compared to \$593.0 million at December 31, 2015.

**Net Realized Gains or Losses**

We recorded net realized gains of \$31.9 million for the 2016 first quarter, compared to net realized gains of \$65.5 million for the 2015 first quarter. Currently, our portfolio is actively managed to maximize total return within certain guidelines. In assessing returns under this approach, we include net investment income, net realized gains and losses and the change in unrealized gains and losses generated by our investment portfolio. 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 resulted 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 included 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. See note 6, "Investment Information—Net Realized Gains (Losses)," of the notes accompanying our consolidated financial statements for additional information.

**Net Impairment Losses Recognized in Earnings**

On a quarterly basis, we perform reviews of our available for sale investments to determine whether declines in fair value below the cost basis are considered other-than-temporary in accordance with applicable accounting guidance regarding the recognition and presentation of other-than-temporary

impairments. We recorded \$7.6 million of impairment losses for the 2016 first quarter, compared to \$5.8 million for the 2015 first quarter. The impairment losses recorded for the 2016 first quarter primarily related to corporate bonds, equities, other investments and mortgage backed securities. See note 6, "Investment Information—Other-Than-Temporary Impairments," of the notes accompanying our consolidated financial statements for additional information.

**Other Expenses**

Other expenses, which are included in our other operating expenses and part of corporate and other (non-underwriting), were \$9.4 million for the 2016 first quarter, compared to \$9.3 million for the 2015 first quarter. Such amounts primarily represent certain holding company costs necessary to support our worldwide insurance, reinsurance and mortgage operations, share based compensation expense and costs associated with operating as a publicly traded company.

**Interest Expense**

Interest expense was \$12.6 million for the 2016 first quarter, compared to \$12.7 million for the 2015 first quarter. Such amounts primarily relate to senior notes outstanding in both periods.

**Net Foreign Exchange Gains or Losses**

Net foreign exchange losses for the 2016 first quarter were \$22.0 million, compared to net foreign exchange gains for the 2015 first quarter of \$66.9 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. Changes in the value of investments held in foreign currencies due to foreign currency rate movements are reflected as

a direct increase or decrease to shareholders' equity and are not included in the consolidated statements of income. We have not matched a portion of our projected liabilities in foreign currencies with investments in the same currencies and may not match such amounts in future periods, which could increase our exposure to foreign currency fluctuations and increase the volatility of our shareholders' equity.

**Income Tax Expense**

Our income tax provision on income before income taxes resulted in an expense of 9.6% for the 2016 first quarter, compared to 4.3% for the 2015 first quarter. The 2016 first quarter reflected a \$1.6 million discrete income tax expense which resulted from an adjustment relating to a prior year tax provision. The impact of this one time adjustment increased the effective tax rate for the 2016 first quarter by 1.0%. 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.

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 2015 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, 2016, total investable assets of \$16.66 billion included \$14.95 billion managed by Arch and \$1.71 billion included in the 'other' segment (i.e., attributable to Watford Re).

Investable Assets Managed by Arch

The finance and investment committee of our board of directors establishes our investment policies and sets the parameters for creating guidelines for our investment managers. The finance and investment committee reviews the implementation of the investment strategy on a regular basis. Our current approach stresses preservation of capital, market liquidity and diversification of risk. While maintaining our emphasis on preservation of capital and liquidity, we expect our portfolio to become more diversified and, as a result, we may expand into areas which are not currently part of our investment strategy. Our Chief Investment Officer administers the investment portfolio, oversees our investment managers, formulates investment strategy in conjunction with our finance and investment committee and directly manages certain portions of our fixed income and equity portfolios.

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

Investable assets (1):	Estimated Fair Value	% of Total
March 31, 2016		
Fixed maturities (2)	\$ 11,575,158	77.4
Short-term investments	629,844	4.2
Cash	479,545	3.2
Equity securities (2)	523,515	3.5
Other investments (2)	1,205,529	8.1
Investments accounted for using the equity method	628,832	4.2
Securities transactions entered into but not settled at the balance sheet date	(88,129 )	(0.6 )
Total investable assets managed by Arch	\$ 14,954,294	100.0
December 31, 2015		
Fixed maturities (2)	\$ 11,200,437	76.5
Short-term investments	587,904	4.0
Cash	444,776	3.0
Equity securities (2)	629,980	4.3
Other investments (2)	1,209,285	8.3
Investments accounted for using the equity method	592,973	4.0
Securities sold but not yet purchased	—	—
Securities transactions entered into but not settled at the balance sheet date	(20,524 )	(0.1 )
Total investable assets managed by Arch	\$ 14,644,831	100.0

In securities lending transactions, we receive collateral in excess of the fair value of the securities pledged. For (1) 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, 2016, 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 2.07%. At December 31, 2015, our fixed income portfolio had average credit quality ratings from S&P/Moody's of "AA/Aa2" and an average yield to maturity of 2.16%. Our investment portfolio had an average effective duration of 3.56 years at March 31, 2016, compared to 3.43 years at December 31, 2015. At March 31, 2016, approximately \$10.59 billion, or 71%, of total investable assets managed by Arch were internally managed, compared to \$10.01 billion, or 68%, at December 31, 2015.

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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, 2016		
Corporate bonds	\$3,125,523	27.0
Mortgage backed securities	714,001	6.2
Municipal bonds	1,605,234	13.9
Commercial mortgage backed securities	577,853	5.0
U.S. government and government agencies	2,975,376	25.7
Non-U.S. government securities	1,184,587	10.2
Asset backed securities	1,392,584	12.0
Total	\$11,575,158	100.0
December 31, 2015		
Corporate bonds	\$2,960,694	26.4
Mortgage backed securities	812,557	7.3
Municipal bonds	1,626,281	14.5
Commercial mortgage backed securities	764,152	6.8
U.S. government and government agencies	2,423,455	21.6
Non-U.S. government securities	992,792	8.9
Asset backed securities	1,620,506	14.5
Total	\$11,200,437	100.0

At March 31, 2016, below-investment grade securities comprised approximately 6% of our Fixed Maturities, compared to 5% at December 31, 2015. In accordance with our investment strategy, we invest in high yield fixed income securities which are included in “Corporate bonds.” Upon issuance, these securities are typically rated below investment grade (i.e., rating assigned by the major rating agencies of “BB+” or less). At March 31, 2016, corporate bonds represented 64% of the total below investment grade securities at fair value, mortgage backed securities represented 17% of the total and 19% were in other classes. At December 31, 2015, corporate bonds represented 70% of the total below investment grade securities at fair value, mortgage backed securities represented 13% of the total and 17% were in other classes. Unrealized losses include the impact of foreign exchange movements on certain securities denominated in foreign currencies and, as such, the amount of securities in an unrealized loss position fluctuates due to foreign currency movements.

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 ratings, ratings from Moody’s are used, followed by ratings from Fitch Ratings.

	Estimated Fair Value	% of Total
March 31, 2016		
U.S. government and gov’t agencies (1)	\$3,611,793	31.2
AAA	3,797,393	32.8
AA	1,524,692	13.2
A	1,512,085	13.1
BBB	484,968	4.2
BB	233,348	2.0
B	164,744	1.4
Lower than B	100,441	0.9



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Not rated	145,694	1.3
Total	\$11,575,158	100.0

December 31, 2015

U.S. government and gov't agencies (1)	\$3,060,869	27.3
AAA	4,000,750	35.7
AA	1,651,760	14.7
A	1,431,138	12.8
BBB	457,251	4.1
BB	203,426	1.8
B	138,770	1.2
Lower than B	130,545	1.2
Not rated	125,928	1.1
Total	\$11,200,437	100.0

(1) Includes U.S. government-sponsored agency 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:

March 31, 2016

Severity of gross unrealized losses:	Estimated Fair Value	Gross Unrealized Losses	% of Total Gross Unrealized Losses
--------------------------------------	----------------------	-------------------------	------------------------------------

March 31, 2016

0-10%	\$2,207,852	\$(33,087)	44.7
10-20%	187,395	(30,063)	40.6
20-30%	28,109	(8,380)	11.3
Greater than 30%	4,516	(2,498)	3.4
Total	\$2,427,872	\$(74,028)	100.0

December 31, 2015

0-10%	\$6,956,754	\$(74,229)	54.4
10-20%	173,441	(28,789)	21.1
20-30%	86,997	(26,227)	19.2
Greater than 30%	10,638	(7,160)	5.2
Total	\$7,227,830	\$(136,405)	100.0

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The following table provides information on the severity of the unrealized loss position as a percentage of amortized cost for non-investment grade Fixed Maturities which were in an unrealized loss position:

Severity of gross unrealized losses:	March 31, 2016		
	Estimated Fair Value	Gross Unrealized Losses	% of Total Gross Unrealized Losses
March 31, 2016			
0-10%	\$ 126,272	\$(4,032)	5.4
10-20%	23,290	(3,760)	5.1
20-30%	9,992	(3,286)	4.4
Greater than 30%	4,514	(2,495)	3.4
Total	\$ 164,068	\$(13,573)	18.3
December 31, 2015			
0-10%	\$ 176,343	\$(5,139)	3.8
10-20%	28,707	(4,807)	3.5
20-30%	12,500	(4,410)	3.2
Greater than 30%	10,520	(7,107)	5.2
Total	\$ 228,070	\$(21,463)	15.7

We determine estimated recovery values for our Fixed Maturities following a review of the business prospects, credit ratings, estimated loss given default factors and information received from asset managers and rating agencies for each security. For structured securities, we utilize underlying data, where available, for each security provided by asset managers and additional information from credit agencies in order to determine an expected recovery value for each security. The analysis provided by the asset managers includes expected cash flow projections under base case and stress case scenarios which modify expected default expectations and loss severities and slow down prepayment assumptions.

The following table summarizes our top ten exposures to fixed income corporate issuers by fair value at March 31, 2016, excluding guaranteed amounts and covered bonds:

	Estimated Fair Value	Credit Rating (1)
Apple Inc.	\$ 70,626	AA+/Aa1
Microsoft Corporation	61,139	AAA/Aaa
Royal Dutch Shell PLC	56,292	A+/Aa2
Wells Fargo & Company	55,465	A/A2
MassMutual Global Funding II	53,772	AA+/Aa2
General Electric Co.	52,884	AA+/A1
Oracle Corporation	52,420	AA-/A1
Anheuser Busch Inbev SA	49,053	A-/A3
Bank of New York Mellon Corp	47,219	A/A1
Toyota Motor Corporation	46,826	AA-/Aa3
Total	\$ 545,696	

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

Our portfolio includes investments, such as mortgage-backed securities, which are subject to prepayment risk. At March 31, 2016, our investments in residential mortgage-backed securities ("MBS") amounted to approximately \$714.0

million, or 4.8% of total investable assets managed by Arch, compared to \$812.6 million, or 5.5%, at December 31, 2015. As with other fixed income investments, the fair value of these securities fluctuates depending on market and other general economic conditions and the interest rate environment. Changes in interest rates can expose us to

changes in the prepayment rate on these investments. In periods of declining interest rates, mortgage prepayments generally increase and MBS are prepaid more quickly, requiring us to reinvest the proceeds at the then current market rates. Conversely, in periods of rising rates, mortgage prepayments generally fall, preventing us from taking full advantage of the higher level of rates. However, economic conditions may curtail prepayment activity if refinancing becomes more difficult, thus limiting prepayments on MBS. Our portfolio also includes commercial mortgage backed securities (“CMBS”). At March 31, 2016, CMBS constituted approximately \$577.9 million, or 3.9% of total investable assets managed by Arch, compared to \$764.2 million, or 5.2%, at December 31, 2015.

Delinquencies and losses with respect to residential mortgage loans from certain vintage years have increased since 2007 and may continue to increase, particularly in the sub-prime sector. In addition, during this period, residential property values in many states have declined or remained stable, after extended periods during which those values appreciated. A continued decline or an extended flattening in those values may result in additional increases in delinquencies and losses on residential mortgage loans generally, especially with respect to second homes and investment properties, and with respect to any residential mortgage loans where the aggregate loan amounts (including any subordinated loans) are close to or greater than the related property values. These developments may have a significant adverse effect on the prices of loans and securities, including those in our investment portfolio. The situation continues to have wide ranging consequences, including downward pressure on economic growth and the potential for increased insurance and reinsurance exposures, which could have an adverse impact on our results of operations, financial condition, business and operations. In addition, the commercial real estate market has experienced price deterioration, which could lead to increased delinquencies and defaults on commercial real estate mortgages.

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The following table provides information on our non-agency MBS and non-agency CMBS at March 31, 2016 by issuance year, excluding amounts guaranteed by U.S. government agencies. Non-agency MBS and non-agency CMBS were 1.0% and 3.3% of total investable assets managed by Arch, respectively.

Issuance Year	Amortized Cost	Average Credit Quality	Estimated Fair Value
2003-2008	\$ 72,762	CC-	\$78,064
2010	1,074	NR	1,177
2014	38,956	AA	38,334
2015	37,922	AA-	37,834
2016	523	NR	521
Total MBS	\$ 151,237	BB-	\$ 155,930
2002-2008	26,164	BBB+	26,333
2009	537	BBB	538
2010	9,113	AAA	9,275
2011	2,143	AAA	2,141
2012	41,733	AAA	42,182
2013	94,929	AA+	97,109
2014	160,001	AAA	160,891
2015	142,149	AAA	144,338
2016	16,628	AA+	16,700
Total CMBS	\$ 493,397	AA+	\$ 499,507

  

Additional Statistics:	Non-Agency	
	MBS	CMBS (1)
Weighted average loan age (months)	82	34
Weighted average life (months) (2)	55	76
Weighted average loan-to-value % (3)	61.9 %	55.8 %
Total delinquencies (4)	9.8 %	0.6 %
Current credit support % (5)	11.8 %	38.9 %

- (1) Loans defeased with government/agency obligations were not material to the collateral underlying our CMBS holdings.
- (2) The weighted average life for MBS is based on the interest rates in effect at March 31, 2016. The weighted average life for CMBS reflects the average life of the collateral underlying our CMBS holdings.
- (3) The range of loan-to-values is 14% to 106% on MBS and 4% to 210% on CMBS.
- (4) Total delinquencies includes 60 days and over.
- (5) Current credit support percentage represents the percentage for a collateralized mortgage obligation (“CMO”) or CMBS class/tranche from other subordinate classes in the same CMO or CMBS deal.

The following table provides information on our asset backed securities (“ABS”) at March 31, 2016. ABS were 9.3% of total investable assets managed by Arch, respectively.

Sector	Amortized Cost	Weighted Average		Estimated Fair Value
		Credit Quality	Credit Support	

Credit cards	\$601,352	AAA	17	%	\$605,275
Autos	289,333	AAA	26	%	288,166
Loans	254,364	AA-	17	%	248,550
Equipment	158,484	AA	11	%	156,119
Other (1)	94,298	A+	19	%	94,474
Total ABS (2)	\$1,397,831	AA+			\$1,392,584

(1) Including rate reduction bonds, commodities, home equity, U.K. securitized and other.

(2) The effective duration of the total ABS was 1.7 years at March 31, 2016.

At March 31, 2016, our fixed income portfolio included \$35.3 million par value in sub-prime securities with a fair value of \$25.9 million and average credit quality ratings from S&P/Moody's of "CCC/Caa2." At December 31, 2015, our fixed income portfolio included \$45.5 million par value in sub-prime securities with a fair value of \$35.9 million and average credit quality ratings from S&P/Moody's of "CCC/Caa3." Such amounts were primarily in the home equity sector of our ABS, with the balance in other ABS, MBS and CMBS sectors. We define sub-prime mortgage-backed securities as investments in which the underlying loans primarily exhibit one or more of the following characteristics: low FICO scores, above-prime interest rates, high loan-to-value ratios or high debt-to-income ratios.

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The following table provides information on the fair value of our Eurozone investments at March 31, 2016:

Country (1)	Sovereign (2)	Corporate Bonds	Other (3)	Total
Netherlands	\$ 164,823	\$ 72,164	\$ 16,490	\$ 253,477
Germany	85,389	19,482	28,651	133,522
France	1,329	28,702	17,366	47,397
Supranational (4)	38,644	—	—	38,644
Luxembourg	—	19,270	8,563	27,833
Ireland	—	190	5,594	5,784
Belgium	5,294	—	—	5,294
Spain	—	—	2,477	2,477
Slovenia	1,779	—	—	1,779
Greece	665	728	—	1,393
Austria	901	—	—	901
Italy	—	—	315	315
Total	\$ 298,824	\$ 140,536	\$ 79,456	\$ 518,816

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, 2016.

(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.

At March 31, 2016, our equity portfolio included \$523.5 million of equity securities, compared to \$630.0 million at December 31, 2015. 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:	March 31, 2016		% of Total Gross Unrealized Losses
	Estimated Fair Value	Gross Unrealized Losses	
March 31, 2016			
0-10%	\$ 149,807	\$(4,769)	34.2
10-20%	31,931	(5,433)	39.0
20-30%	10,128	(3,159)	22.7
Greater than 30%	1,000	(564)	4.1
Total	\$ 192,866	\$(13,925)	100.0
December 31, 2015			
0-10%	\$ 176,451	\$(5,926)	33.3
10-20%	39,728	(6,528)	36.7
20-30%	13,700	(4,164)	23.4
Greater than 30%	2,396	(1,178)	6.6
Total	\$ 232,275	\$(17,796)	100.0

On a quarterly basis, we evaluate the unrealized losses of our equity securities by issuer and forecast a reasonable period of time by which the fair value of the securities would

increase and we would recover the cost basis. All of the unrealized losses on equity securities were on holdings which have been in a continual unrealized loss position for less than 12 months at March 31, 2016. We believe that a reasonable period of time exists to allow for recovery of the cost basis of our equity securities that are in an unrealized loss position at March 31, 2016.

The following table summarizes our other investments:

	March 31, 2016	December 31, 2015
Available for sale:		
Asian and emerging markets	\$ 112,769	\$ 206,861
Investment grade fixed income	32,515	31,370
Credit related funds	13,609	22,512
Other	36,186	39,733
Total available for sale	195,079	300,476
Fair value option:		
Term loan investments (par value: \$369,868 and \$356,096)	366,995	345,855
Mezzanine debt funds	123,696	121,589
Credit related funds	217,122	219,049
Investment grade fixed income	66,050	63,053
Asian and emerging markets	121,232	34,761
Other (1)	115,355	124,502
Total fair value option	1,010,450	908,809
Total	\$ 1,205,529	\$ 1,209,285

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

Certain of our other investments are in investment funds for which we have 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 our 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 our investment is eligible to be redeemed, the time to redeem such investment can take weeks or months following the notification. Certain of our investment managers may use leverage to achieve a higher rate of return on their assets under management, primarily those included in "other investments available for sale, at fair value," "investments accounted for using the fair value option" and "investments accounted for

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using the equity method” on our balance sheet. While leverage presents opportunities for increasing the total return of such investments, it may increase losses as well. Accordingly, any event that adversely affects the value of the underlying holdings would be magnified to the extent leverage is used and our potential losses would be magnified. In addition, the structures used to generate leverage may lead to such investments being required to meet covenants based on market valuations and asset coverage. Market valuation declines could force the sale of investments into a depressed market, which may result in significant additional losses. Alternatively, the levered investments may attempt to delever by raising additional equity or potentially changing the terms of the established financing arrangements. We may choose to participate in the additional funding of such investments.

Our investment strategy allows for the use of derivative instruments. We utilize various derivative instruments such as futures contracts to enhance investment performance, replicate investment positions or manage market exposures and duration risk that would be allowed under our investment guidelines if implemented in other ways. See note 8, “Derivative Instruments,” of the notes accompanying our consolidated financial statements for additional disclosures concerning derivatives.

Accounting guidance regarding fair value measurements addresses how companies should measure fair value when they are required to use a fair value measure for recognition or disclosure purposes under GAAP and provides a common definition of fair value to be used throughout GAAP. See note 7, “Fair Value,” of the notes accompanying our consolidated financial statements for a summary of our financial assets and liabilities measured at fair value at March 31, 2016 and December 31, 2015 segregated by level in the fair value hierarchy.

**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 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, 2016	December 31, 2015
Cash	\$78,416	\$ 108,550
Investments accounted for using the fair value option:		
Term loan investments (par value: \$867,747 and \$841,047)	782,254	762,162
Fixed maturities	690,100	569,022
Short-term investments	284,793	285,923
Total investments accounted for using the fair value option	1,757,147	1,617,107
Securities sold but not yet purchased	(48,279 )	(30,583 )
Securities transactions entered into but not settled at the balance sheet date	(77,422 )	1,033
Total investable assets included in ‘other’ segment	\$1,709,862	\$ 1,696,107
Premiums Receivable and Reinsurance Recoverables		

At March 31, 2016, 83.6% of premiums receivable of \$1.21 billion represented amounts not yet due, while amounts in excess of 90 days overdue were 4.3% of the total. At December 31, 2015, 80.8% of premiums receivable of \$983.4 million represented amounts not yet due, while amounts in excess of 90 days overdue were 5.3% of the total. Our reserves for doubtful accounts were approximately \$16.7 million at March 31, 2016, compared to \$15.7 million at December 31, 2015.

At March 31, 2016 and December 31, 2015, approximately 75.0% and 77.9% of reinsurance recoverables on paid and unpaid losses (not including prepaid reinsurance premiums) of \$1.96 billion and \$1.87 billion, respectively, were due from carriers which had an A.M. Best rating of “A-” or better while 25.0% and 22.1%, 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, 2016 and December 31, 2015. The largest reinsurance recoverables from any one carrier was approximately 3.3% and 3.4%, respectively, of total shareholders’ equity available to Arch.

Approximately 2.0% of the \$25.1 million of paid losses and loss adjustment expenses recoverable at March 31, 2016 were more than 90 days overdue, compared to 3.9% of the \$38.5 million of paid losses and loss adjustment expenses



recoverable at December 31, 2015. No collection issues were indicated on the amount of in excess of 90 days overdue at March 31, 2016.

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

	Three Months Ended	
	March 31,	
	2016	2015
Premiums written:		
Direct	\$858,110	\$794,433
Assumed	579,856	547,589
Ceded	(316,731 )	(275,027 )
Net	\$1,121,235	\$1,066,995

Premiums earned:		
Direct	\$779,770	\$734,217
Assumed	421,058	397,251
Ceded	(249,249 )	(221,204 )
Net	\$951,579	\$910,264

Losses and loss adjustment expenses:		
Direct	\$455,333	\$430,841
Assumed	192,460	159,545
Ceded	(124,844 )	(96,670 )
Net	\$522,949	\$493,716

## 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.

At March 31, 2016 and December 31, 2015, our Loss Reserves, net of unpaid losses and loss adjustment expenses recoverable, by type and by operating segment were as follows:

	March 31,	December 31,
	2016	2015
Insurance segment:		
Case reserves	\$1,408,106	\$1,434,986
IBNR reserves	3,159,704	3,080,122
Total net reserves	4,567,810	4,515,108
Reinsurance segment:		
Case reserves	722,219	699,860
Additional case reserves	105,689	99,343
IBNR reserves	1,599,480	1,593,186
Total net reserves	2,427,388	2,392,389
Mortgage segment:		
Case reserves	81,450	86,278
IBNR reserves	26,279	23,211
Total net reserves	107,729	109,489
Other segment:		

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Case reserves	77,479	64,875
Additional case reserves	5,473	5,199
IBNR reserves	255,384	209,353
Total net reserves	338,336	279,427

Total:

Case reserves	2,289,254	2,285,999
Additional case reserves	111,162	104,542
IBNR reserves	5,040,847	4,905,872
Total net reserves	\$7,441,263	\$7,296,413

At March 31, 2016 and December 31, 2015, 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, 2016	December 31, 2015
Insurance segment:		
Professional lines (1)	\$1,372,158	\$1,346,882
Construction and national accounts	897,543	876,278
Excess and surplus casualty (2)	685,229	682,286
Programs	683,651	687,405
Property, energy, marine and aviation	310,212	330,104
Travel, accident and health	66,264	64,537
Lenders products	46,978	44,273
Other (3)	505,775	483,343
Total net reserves	\$4,567,810	\$4,515,108

(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.

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At March 31, 2016 and December 31, 2015, 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, 2016	December 31, 2015
Reinsurance segment:		
Casualty (1)	\$1,411,509	\$ 1,386,084
Other specialty (2)	426,532	420,865
Property excluding property catastrophe (3)	303,045	301,757
Marine and aviation	142,948	137,969
Property catastrophe	88,978	94,991
Other (4)	54,376	50,723
Total net reserves	\$2,427,388	\$ 2,392,389

(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

Arch MI U.S. generated \$2.91 billion of new insurance written ("NIW") during the 2016 first quarter, of which approximately 69% was from banks and other non-credit union mortgage originators. NIW represents the original principal balance of all loans that received coverage during the period.

The following tables provide details on the NIW generated by Arch MI U.S. for the last two quarters by credit quality and loan-to-value ("LTV"):

(U.S. Dollars in millions)	Three Months Ended	
	March 31, 2016	December 31, 2015
	Amount%	Amount%
Total new insurance written (NIW)	\$2,906	\$2,575

#### Total NIW by credit quality (FICO score):

>=740	\$1,808	62.2	\$1,543	59.9
680-739	959	33.0	842	32.7
620-679	139	4.8	190	7.4
<620	—	—	—	—
Total	\$2,906	100.0	\$2,575	100.0

#### Total NIW by LTV:

95.01% and above	\$175	6.0	\$164	6.4
90.01% to 95.00%	1,233	42.4	1,164	45.2
85.01% to 90.00%	1,021	35.1	856	33.2
85.01% and below	477	16.4	391	15.2
Total	\$2,906	100.0	\$2,575	100.0

#### Total NIW purchase vs. refinance:

Purchase	\$2,055	70.7	\$1,923	74.7
Refinance	851	29.3	652	25.3
Total	\$2,906	100.0	\$2,575	100.0

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

(U.S. Dollars in millions)	March 31, 2016		December 31, 2015	
	Amount	%	Amount	%
Insurance In Force (IIF) (1):				
U.S. mortgage insurance	\$28,433	30.9	\$27,101	35.5
Mortgage reinsurance	22,393	24.3	20,876	27.3
Other (3)	41,172	44.8	28,415	37.2
Total	\$91,998	100.0	\$76,392	100.0

Risk In Force

(RIF) (2):				
U.S. mortgage insurance	\$7,165	56.1	\$6,826	59.4
Mortgage reinsurance	3,964	31.1	3,464	30.1
Other (3)	1,636	12.8	1,206	10.5
Total	\$12,765	100.0	\$11,496	100.0

Ending number of policies in force 153,984 148,943

(1) Represents the aggregate dollar amount of each insured mortgage loan's original principal balance.

Represents the aggregate dollar amount of each insured mortgage loan's current principal balance multiplied by the (2) 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.

(3) Includes GSE credit risk-sharing products and international insurance business.

The following tables provide supplemental disclosures for our mortgage segment's U.S. mortgage insurance operations related to RIF at the end of the last two quarters:

(U.S. Dollars in millions)	March 31, 2016		December 31, 2015	
	Amount	%	Amount	%
Total RIF by credit quality (FICO):				
>=740	\$3,995	55.8	\$3,763	55.1
680-739	2,354	32.9	2,237	32.8
620-679	712	9.9	717	10.5
<620	104	1.5	109	1.6
Total	\$7,165	100.0	\$6,826	100.0
Weighted average FICO score	739		738	

Total RIF by LTV:

95.01% and above	\$1,052	14.7	\$1,050	15.4
90.01% to 95.00%	3,677	51.3	3,472	50.9
85.01% to 90.00%	2,056	28.7	1,942	28.5
85.00% and below	380	5.3	362	5.3
Total	\$7,165	100.0	\$6,826	100.0
Weighted average LTV	93.0	%	93.0	%

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(U.S. Dollars in millions)	March 31, 2016		December 31, 2015	
	Amount	%	Amount	%
Total RIF by State:				
California	\$622	8.7	\$599	8.8
Wisconsin	585	8.2	581	8.5
Texas	401	5.6	380	5.6
Florida	345	4.8	327	4.8
Minnesota	319	4.5	315	4.6
Massachusetts	262	3.7	249	3.6
Washington	261	3.6	259	3.8
Virginia	237	3.3	218	3.2
Michigan	233	3.3	230	3.4
New York	223	3.1	223	3.3
Others	3,677	51.3	3,445	50.5
Total	\$7,165	100.0	\$6,826	100.0

Coverage ratio (1) 25.2 % 25.2 %

Analysts' persistency (2) 74.2 % 75.6 %

Risk-to-capital ratio (3) 11.0:1 10.5:1

(1) Represents the end of period RIF divided by end of period IIF.

(2) Represents the percentage of IIF at the beginning of a 12-month period that remained in force at the end of the period.

(3) Represents total current (non-delinquent) RIF, net of reinsurance, divided by total statutory capital. Ratio calculated for Arch MI U.S. only (estimate for March 31, 2016).

The following table provides supplemental disclosures for our mortgage segment's U.S. mortgage insurance operations related to insured loans and loss metrics:

(U.S. Dollars in thousands, except loan count)	Three Months Ended	
	March 31, 2016	December 31, 2015
Roll-forward of insured loans in default:		
Beginning delinquent number of loans	2,702	2,757
New notices	1,048	1,134
Cures	(1,206 )	(987 )
Paid claims	(222 )	(205 )
Delinquent rescissions and denials	3	3
Ending delinquent number of loans	2,325	2,702
Ending percentage of loans in default	1.5 %	1.8 %

## Losses:

Number of claims paid	222	205
Total paid claims	\$9,168	\$8,093
Average per claim	\$41.3	\$39.5
Severity (1)	93.9 %	96.2 %
Average reserve per default	\$32.1	\$29.1

(1) Represents total paid claims divided by RIF of loans for which claims were paid.

## Shareholders' Equity and Book Value per Common Share

Total shareholders' equity available to Arch was \$6.41 billion at March 31, 2016, compared to \$6.20 billion at December 31, 2015. The increase was primarily attributable to net income, reflecting contributions from both underwriting and investing activities.

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

(U.S. dollars in thousands, except share data)	March 31, 2016	December 31, 2015
Total shareholders' equity available to Arch	\$ 6,413,587	\$ 6,204,881
Less preferred shareholders' equity	325,000	325,000
Common shareholders' equity available to Arch	\$ 6,088,587	\$ 5,879,881
Common shares outstanding, net of treasury shares (1)	122,093,596	122,627,783
Book value per common share	\$ 49.87	\$ 47.95

(1) Excludes the effects of 6,889,451 and 7,482,462 stock options and 411,929 and 413,364 restricted stock units outstanding at March 31, 2016 and December 31, 2015, respectively.

## Liquidity and Capital Resources

This section does not include information specific to 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 the reinsurance transactions.

ACGL is a holding company whose assets primarily consist of the shares in its subsidiaries. Generally, ACGL depends on its available cash resources, liquid investments and dividends or other distributions from its subsidiaries to make payments, including the payment of debt service obligations and operating expenses it may incur and any dividends or liquidation amounts with respect to the non-cumulative preferred shares and common shares. ACGL's readily available cash, short-term investments and marketable securities, excluding amounts held by our regulated insurance and reinsurance subsidiaries, totaled \$6.9 million at March 31, 2016, compared to \$6.9 million at December 31, 2015. During the 2016 first quarter, ACGL received dividends of \$96.8 million from Arch Reinsurance Ltd. ("Arch Re Bermuda"), our Bermuda-based reinsurer and insurer.

The ability of our regulated insurance and reinsurance subsidiaries to pay dividends or make distributions or other payments to us is dependent on their ability to meet applicable regulatory standards. Under Bermuda law, Arch Re Bermuda is required to maintain statutory capital (i.e., the amount by which the value of its statutory assets exceed its statutory liabilities) equal to or in excess of its minimum solvency margin equal to the greatest of (1) \$100.0 million, (2) 50% of net premiums written (being gross premiums written less any premiums ceded by Arch Re Bermuda, but Arch Re Bermuda may not deduct more than 25% of gross premiums when computing net premiums written), (3) 15% of net aggregated losses and loss expense provisions and other insurance reserves and (4) 25% of its enhanced capital requirement ("ECR") as reported at the end of the relevant year. Arch Re Bermuda is prohibited from declaring or paying any dividends during any financial year if it is not in compliance with its ECR, minimum solvency margin or

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minimum liquidity ratio. In addition, Arch Re Bermuda is prohibited from declaring or paying in any financial year dividends of more than 25% of its total statutory capital and surplus (as shown on its previous financial year's statutory balance sheet) unless it files, at least seven days before payment of such dividends, with the Bermuda Monetary Authority ("BMA") an affidavit stating that it will continue to meet the required margins. In addition, Arch Re Bermuda is prohibited, without prior approval of the BMA, from reducing by 15% or more its total statutory capital, as set out in its previous year's statutory financial statements. As a Class 4 insurer, Arch Re Bermuda is required to maintain available statutory capital and surplus pertaining to its general business at a level equal to or in excess of its ECR which is established by reference to either the BSCR model ("BSCR") or an approved internal capital model. At December 31, 2015, as determined under Bermuda law, Arch Re Bermuda had statutory capital of \$2.45 billion (\$2.40 billion at December 31, 2014) and statutory capital and surplus of \$5.43 billion (\$5.42 billion at December 31, 2014), which amounts were in compliance with Arch Re Bermuda's ECR at such date. Such amounts include ownership interests in U.S. insurance and reinsurance subsidiaries. Accordingly, Arch Re Bermuda can pay approximately \$1.26 billion to ACGL during the remainder of 2016 without providing an affidavit to the BMA, as discussed above. Under BMA guidelines, the value of the assets of our insurance group (i.e., the group of companies that conducts exclusively, or mainly, insurance business) must exceed the amount of the group's liabilities by the aggregate minimum margin of solvency of each qualifying member of the group (the "Group MSM"). A member is a qualifying member of the insurance group if it is subject to solvency requirements in the jurisdiction in which it is registered. We were in compliance with the Group MSM at December 31, 2015.

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. Dividends or distributions, if any, made by Arch Re U.S. would result in an increase in available capital at Arch Capital Group (U.S.) Inc. ("Arch-U.S."), a wholly-owned subsidiary of ACGL. Arch Re U.S. can declare a maximum of approximately \$120 million of dividends during the remainder of 2016 subject to the approval of the Commissioner of the Delaware Department of Insurance ("Commissioner"). In addition, with respect to dividends in excess of the \$120 million (extraordinary dividend), no payment can be made until (1) 30 days after the Commissioner has received notice of the declaration thereof and has not within such period disapproved such payment; or (2) the Commissioner shall have approved the payment within the 30-day period. Delaware insurance laws also

require that the statutory surplus of Arch Re U.S. following any dividend or distribution be reasonable in relation to its outstanding liabilities and adequate to its financial needs.

In April 2015, the GSEs published comprehensive, revised requirements, known as the Private Mortgage Insurer Eligibility Requirements or "PMIERS." The PMIERS became effective December 31, 2015 and apply to Arch MI U.S., which is a GSE-approved mortgage insurer. They do not apply to Arch Mortgage Guaranty Company, which insures mortgages that are not intended to be sold to the GSEs, and it is therefore not approved by either GSE as an eligible mortgage insurer. In addition to extensive requirements relating to the operation of our mortgage insurance business, the PMIERS include revised financial requirements for mortgage insurers. No later than March 1, 2016, mortgage insurers were required to certify to the GSEs that they meet all of the requirements of the PMIERS or identify specific requirements that they do not meet. If a mortgage insurer is unable to meet the financial requirements of the PMIERS, it was required to submit by March 31, 2016 a transition plan to the GSEs for their review and approval. Mortgage insurers that have not met the financial requirements of the PMIERS by June 30, 2017 will be subject to remediation actions by the GSEs.

The amount of assets required to satisfy the revised financial requirements of the PMIERS at any point in time will be affected by many factors, including macro-economic conditions, the size and composition of Arch MI U.S.'s mortgage insurance portfolio at the point in time, and the amount of risk ceded to reinsurers that may be deducted by Arch MI U.S. in its calculation of "minimum required assets." Arch MI U.S. satisfied the PMIERS' financial requirements as of March 31, 2016. Under the PMIERS, Arch MI U.S. is deemed to be a "newly-approved insurer." As a result of this



status, until January 2017, Arch MI U.S. is subject to additional PMIER requirements, including that Arch MI U.S. is prohibited from paying dividends to affiliates or making any investment, contribution or loan to any affiliate. In addition to meeting applicable regulatory standards, the ability of our insurance and reinsurance subsidiaries to pay dividends to intermediate parent companies owned by Arch Re Bermuda is also constrained by our dependence on the financial strength ratings of our insurance and reinsurance subsidiaries from independent rating agencies. The ratings from these agencies depend to a large extent on the capitalization levels of our insurance and reinsurance subsidiaries. We believe that ACGL has sufficient cash resources and available dividend capacity to service its indebtedness and other current outstanding obligations.

Our insurance and reinsurance subsidiaries are required to maintain assets on deposit, which primarily consist of fixed maturities, with various regulatory authorities to support their operations. The assets on deposit are available to settle insurance and reinsurance liabilities to third parties. Our insurance and reinsurance subsidiaries maintain assets in

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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. At March 31, 2016 and December 31, 2015, such amounts approximated \$5.36 billion and \$5.20 billion, respectively, excluding amounts related to the 'other' segment.

Our non-U.S. operations account for a significant percentage of our net premiums written. In general, the business written by our non-U.S. operations, which is heavily weighted towards reinsurance business, has been more profitable than the business written in our U.S. operations, which is weighted more towards insurance business. In general, our reinsurance segment has operated at a higher margin than our insurance segment, which is due to prevailing market conditions and the mix and type of business written. Historically, the most profitable line of business has been catastrophe-exposed property reinsurance, which is written primarily in our non-U.S. operations. Additionally, a significant component of our pre-tax income is generated through our investment performance. We hold a substantial amount of our investable assets in our non-U.S. operations and, accordingly, a large portion of our investment income is produced in our non-U.S. operations. In addition, ACGL, through its subsidiaries, provides financial support to certain of its insurance subsidiaries and affiliates, through certain reinsurance arrangements beneficial to the ratings of such subsidiaries. Our U.S.-based insurance and reinsurance groups enter into separate reinsurance arrangements with Arch Re Bermuda covering individual lines of business. For the 2015 calendar year, the U.S. groups ceded business to Arch Re Bermuda at an aggregate net cession rate (i.e., net of third party reinsurance) of approximately 53%, compared to 53% for 2014. All of the above factors have resulted in the non-U.S. group providing a higher contribution to our overall pre-tax income in the current period than the percentage of net premiums written would indicate.

Except as described in the above paragraph, or where express reinsurance, guarantee or other financial support contractual arrangements are in place, each of ACGL's subsidiaries or affiliates is solely responsible for its own liabilities and commitments (and no other ACGL subsidiary or affiliate is so responsible). Any reinsurance arrangements, guarantees or other financial support contractual arrangements that are in place are solely for the benefit of the ACGL subsidiary or affiliate involved and third parties (creditors or insureds of such entity) are not express beneficiaries of such arrangements.

The following table summarizes our cash flows from operating, investing and financing activities, presented on a 'core' basis. See 'Comments on Non-GAAP Financial Measures' for a further discussion of the presentation of 'core' results and our consolidated statements of cash flows for consolidated results.

	Three Months Ended	
	March 31,	
	2016	2015
Total cash provided by (used for):		
Operating activities	\$257,279	\$15,599
Investing activities	(189,559 )	79,941
Financing activities	(35,664 )	(161,207 )
Effects of exchange rate changes on foreign currency cash	4,052	(6,265 )
Increase (decrease) in cash	\$36,108	\$(71,932)

Cash provided by operating activities for the 2016 period was higher than in the 2015 period, reflecting a higher level of premiums collected and a lower level of claim payments, including amounts which are reimbursable from insureds, reinsurers and others. The 2015 period also reflected a higher level of outflows related to the Company's mortgage operations.

Cash used for investing activities for the 2016 period was higher than in the 2015 period. Activity for the 2016 period reflected higher net purchases of investments than in the 2015 period, reflecting the investment of operating cash flows and the lower level of repurchases under our share repurchase program in the 2016 period.

Cash used for financing activities for the 2016 period was lower than in the 2015 period, primarily due to the lower level of repurchases under our share repurchase program in the 2016 period. We repurchased \$75.3 million of our common shares in the 2016 period, compared to \$162.9 million in the 2015 period.

Our insurance and reinsurance operations provide liquidity in that premiums are received in advance, sometimes substantially in advance, of the time losses are paid. The period of time from the occurrence of a claim through the settlement of the liability may extend many years into the future. Sources of liquidity include cash flows from operations, financing arrangements or routine sales of investments.

As part of our investment strategy, we seek to establish a level of cash and highly liquid short-term and intermediate-term securities which, combined with expected cash flow, is believed by us to be adequate to meet our foreseeable payment obligations. However, due to the nature of our operations, cash flows are affected by claim payments that may comprise large payments on a limited number of claims and which can fluctuate from year to year. We believe that our liquid investments and cash flow will provide us with sufficient liquidity in order to meet our claim payment obligations. However, the timing and amounts of actual claim

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payments related to recorded Loss Reserves vary based on many factors, including large individual losses, changes in the legal environment, as well as general market conditions. The ultimate amount of the claim payments could differ materially from our estimated amounts. Certain lines of business written by us, such as excess casualty, have loss experience characterized as low frequency and high severity. The foregoing may result in significant variability in loss payment patterns. The impact of this variability can be exacerbated by the fact that the timing of the receipt of reinsurance recoverables owed to us may be slower than anticipated by us. Therefore, the irregular timing of claim payments can create significant variations in cash flows from operations between periods and may require us to utilize other sources of liquidity to make these payments, which may include the sale of investments or utilization of existing or new credit facilities or capital market transactions. If the source of liquidity is the sale of investments, we may be forced to sell such investments at a loss, which may be material.

Our investments in certain securities, including certain fixed income and structured securities, investments in funds accounted for using the equity method, other alternative investments and investments in ventures such as Watford Re and others may be illiquid due to contractual provisions or investment market conditions. If we require significant amounts of cash on short notice in excess of anticipated cash requirements, then we may have difficulty selling these investments in a timely manner or may be forced to sell or terminate them at unfavorable values. Our unfunded investment commitments totaled approximately \$1.19 billion at March 31, 2016 .

At March 31, 2016, our investable assets were \$14.95 billion, excluding the \$1.71 billion of investable assets related to the ‘other’ segment. The primary goals of our asset liability management process are to satisfy the insurance liabilities, manage the interest rate risk embedded in those insurance liabilities and maintain sufficient liquidity to cover fluctuations in projected liability cash flows, including debt service obligations. Generally, the expected principal and interest payments produced by our fixed income portfolio adequately fund the estimated runoff of our insurance reserves. Although this is not an exact cash flow match in each period, the substantial degree by which the fair value of the fixed income portfolio exceeds the expected present value of the net insurance liabilities, as well as the positive cash flow from newly sold policies and the large amount of high quality liquid bonds, provide assurance of our ability to fund the payment of claims and to service our outstanding debt without having to sell securities at distressed prices or access credit facilities.

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, 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. Our investment portfolio as of March 31, 2016 included \$298.8 million of securities issued and/or guaranteed by Eurozone governments at fair value, \$2.98 billion of obligations of the U.S. government and government agencies at fair value and \$1.61 billion of municipal bonds at fair value. Please refer to Item 1A “Risk Factors” of our 2015 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.

We monitor our capital adequacy on a regular basis and will seek to adjust our capital base (up or down) according to the needs of our business. The future capital requirements of our business will depend on many factors, including our ability to write new business successfully and to establish premium rates and reserves at levels sufficient to cover losses. Our ability to underwrite is largely dependent upon the quality of our claims paying and financial strength ratings as evaluated by independent rating agencies. In particular, we require (1) sufficient capital to maintain our financial strength ratings, as issued by several ratings agencies, at a level considered necessary by management to enable our key operating subsidiaries to compete; (2) sufficient capital to enable our underwriting subsidiaries to meet the capital adequacy tests performed by statutory agencies in the U.S. and other key markets; and (3) our non-U.S. operating companies are required to post letters of credit and other forms of collateral that are necessary for them to

operate as they are “non-admitted” under U.S. state insurance regulations.

In December 2013, Arch-U.S., a wholly-owned subsidiary of ACGL, completed a public offering of \$500.0 million principal amount of 5.144% senior notes issued at par and due November 1, 2043 (“Arch-U.S. Senior Notes”), fully and unconditionally guaranteed by ACGL (the “Guarantee”). The Arch-U.S. Senior Notes and the Guarantee are unsecured and unsubordinated obligations of Arch-U.S. and ACGL, respectively, and rank equally and ratably with the other unsecured and unsubordinated indebtedness of Arch-U.S. and ACGL, respectively. A portion of the proceeds from the offering were used to fund the acquisition of the mortgage operations noted below. In addition, the proceeds are available for other corporate purposes.

Pursuant to our 2014 acquisition of CMG Mortgage Insurance Company and its affiliated mortgage insurance companies (the “CMG Entities”), we are required to make contingent consideration payments based on the closing book value of the pre-closing portfolio of the CMG Entities as re-

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calculated over an earn-out period and payable at the third, fifth and sixth anniversaries after closing (subject to a one time extension period of one to three years at the sellers' discretion). The maximum amount of contingent consideration payments is \$136.9 million over the earn-out period (or 150% of the closing book value of the CMG Entities less amounts paid at closing). To the extent that the adjusted book value of the CMG Entities drops below the cumulative amount paid by us, no additional payments would be due.

As part of our capital management program, we may seek to raise additional capital or may seek to return capital to our shareholders through share repurchases, cash dividends or other methods (or a combination of such methods). Any such determination will be at the discretion of our board of directors and will be dependent upon our profits, financial requirements and other factors, including legal restrictions, rating agency requirements and such other factors as our board of directors deems relevant.

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 through March 31, 2016, ACGL has repurchased 125.2 million common shares for an aggregate purchase price of \$3.68 billion. At March 31, 2016, approximately \$446.5 million of share repurchases were available under the program. Repurchases under this authorization may be effected from time to time in open market or privately negotiated transactions through December 31, 2016. 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. We will continue to monitor our share price and, depending upon results of operations, market conditions and the development of the economy, as well as other factors, we will consider share repurchases on an opportunistic basis.

To the extent that our existing capital is insufficient to fund our future operating requirements or maintain such ratings, we may need to raise additional funds through financings or limit our growth. We can provide no assurance that, if needed, we would be able to obtain additional funds through financing on satisfactory terms or at all. Adverse developments in the financial markets, such as disruptions, uncertainty or volatility in the capital and credit markets, may result in realized and unrealized capital losses that could have a material adverse effect on our results of operations, financial position and our businesses, and may also limit our access to capital required to operate our business.

If we are not able to obtain adequate capital, our business, results of operations and financial condition could be adversely affected, which could include, among other things, the following possible outcomes: (1) potential downgrades in the financial strength ratings assigned by ratings agencies to our operating subsidiaries, which could place those operating subsidiaries at a competitive disadvantage

compared to higher-rated competitors; (2) reductions in the amount of business that our operating subsidiaries are able to write in order to meet capital adequacy-based tests enforced by statutory agencies; and (3) any resultant ratings downgrades could, among other things, affect our ability to write business and increase the cost of bank credit and letters of credit. In addition, under certain of the reinsurance agreements assumed by our reinsurance operations, upon the occurrence of a ratings downgrade or other specified triggering event with respect to our reinsurance operations, such as a reduction in surplus by specified amounts during specified periods, our ceding company clients may be provided with certain rights, including, among other things, the right to terminate the subject reinsurance agreement and/or to require that our reinsurance operations post additional collateral.

In addition to common share capital, we depend on external sources of finance to support our underwriting activities, which can be in the form (or any combination) of debt securities, preference shares, common equity and bank credit facilities providing loans and/or letters of credit. As noted above, equity or debt financing, if available at all, may be on terms that are unfavorable to us. In the case of equity financings, dilution to our shareholders could result, and, in any case, such securities may have rights, preferences and privileges that are senior to those of our outstanding securities.

In June 2014, ACGL and its wholly-owned subsidiaries entered into a five-year agreement for a \$300.0 million unsecured revolving loan and letter of credit facility and a \$500.0 million secured letter of credit facility. Under the terms of the agreement, Arch Re U.S. and Arch Re Bermuda are limited to issuing an aggregate of \$100.0 million of unsecured letters of credit as part of the unsecured revolving loan. At March 31, 2016, ACGL had \$200.0 million and

\$304.5 million in remaining capacity under the unsecured revolving loan facility and the secured letter of credit facility, respectively. Refer to note 9, “Commitments and Contingencies—Letter of Credit and Revolving Credit Facilities,” of the notes accompanying our consolidated financial statements for a discussion of our available facilities, applicable covenants on such facilities and available capacity.

In March 2015, ACGL and Arch-U.S. filed a universal shelf registration statement with the SEC. This registration statement allows for the possible future offer and sale by us of various types of securities, including unsecured debt securities, preference shares, common shares, warrants, share purchase contracts and units and depositary shares. The shelf registration statement enables us to efficiently access the public debt and/or equity capital markets in order to meet our future capital needs. The shelf registration statement also allows selling shareholders to resell common shares that they own in one or more offerings from time to time. We will not receive any proceeds from any shares offered by the selling shareholders. This report is not an offer to sell or the

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solicitation of an offer to buy nor shall there be any sale of these securities in any state in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state.

At March 31, 2016, total capital available to Arch of \$7.30 billion consisted of \$791.3 million of senior notes, representing 10.8% of the total, \$100.0 million of revolving credit agreement borrowings due in June 2019, representing 1.4% of the total, \$325.0 million of preferred shares, representing 4.4% of the total, and common shareholders' equity of \$6.09 billion, representing 83.3% of the total. At December 31, 2015, total capital available to Arch of \$7.10 billion consisted of \$791.3 million of senior notes, representing 11.2% of the total, \$100.0 million of revolving credit agreement borrowings, representing 1.4% of the total, \$325.0 million of preferred shares, representing 4.6% of the total, and common shareholders' equity of \$5.88 billion, representing 82.9% of the total.

**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 2015 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, 2016. 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 its investment in Watford Re's common and preferred shares and counterparty credit risk (mitigated by collateral) arising from the reinsurance transactions.

An analysis of material changes in market risk exposures at March 31, 2016 that affect the quantitative and qualitative disclosures presented in our 2015 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
March 31, 2016					
Total fair value	\$14.45	\$14.20	\$13.95	\$13.69	\$13.45
Change from base	3.59	% 1.82	%	(1.85 )%	(3.62 )%
Change in unrealized value	\$0.50	\$0.25		\$(0.26 )	\$(0.50 )

## Dec. 31, 2015

Total fair value	\$14.04	\$13.80	\$13.57	\$13.34	\$13.12
Change from base	3.44	% 1.70	%	(1.69 )%	(3.32 )%
Change in unrealized value	\$0.47	\$0.23		\$(0.23 )	\$(0.45 )

In addition, we consider the effect of credit spread 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 and investment funds accounted for using the equity method which invest in 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 Basis Points				
	-100	-50	—	+50	+100
March 31, 2016					
Total fair value	\$14.39	\$14.17	\$13.95	\$13.73	\$13.51
Change from base	3.13	% 1.57	%	(1.57 )%	(3.13 )%
Change in unrealized value	\$0.44	\$0.22		\$(0.22 )	\$(0.44 )

Dec. 31, 2015

Total fair value	\$13.97	\$13.77	\$13.57	\$13.37	\$13.17
Change from base	2.97	% 1.48	%	(1.48 )%	(2.97 )%
Change in unrealized value	\$0.40	\$0.20		\$(0.20 )	\$(0.40 )

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

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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, 2016, our portfolio's VaR was estimated to be 3.27%, or \$456.2 million, compared to an estimated 3.01%, or \$408.5 million, at December 31, 2015.

**Certain Other Investments and Equity Securities**

Our investment portfolio includes certain other investments which do not invest in fixed income securities along with equity holdings. At March 31, 2016 and December 31, 2015, the fair value of such investments totaled \$523.5 million and \$630.0 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 \$52.4 million and \$63.0 million at March 31, 2016 and December 31, 2015, respectively, and would have decreased book value per common share by approximately \$0.43 and \$0.51, respectively. An immediate hypothetical 10% increase in the value of each position would increase the fair value of such investments by approximately \$52.4 million and \$63.0 million at March 31, 2016 and December 31, 2015, respectively, and would have increased book value per common share by approximately \$0.43 and \$0.51, respectively.

**Investment-Related Derivatives**

Derivative instruments may be used to enhance investment performance, replicate investment positions or manage market exposures and duration risk that would be allowed under our investment guidelines if implemented in other ways. The fair values of those derivatives are based on quoted market prices. See note 8, "Derivative Instruments," of the notes accompanying our consolidated financial statements for additional disclosures concerning derivatives. At March 31, 2016, 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 \$3.58 billion, compared to \$2.81 billion at December 31, 2015. If the underlying exposure of each investment-related derivative held at March 31, 2016 depreciated by 100 basis points, it would have resulted in a reduction in net income of approximately \$35.8 million, and a decrease in book value per common share of approximately \$0.29 per share, compared to \$28.1 million and \$0.23 per share, respectively, on investment-related derivatives held at December 31, 2015. If the underlying exposure of each investment-related derivative held at March 31, 2016 appreciated by 100 basis points, it would have resulted in an

increase in net income of approximately \$35.8 million, and an increase in book value per common share of approximately \$0.29 per share, compared to \$28.1 million and \$0.23 per share, respectively, on investment-related derivatives held at December 31, 2015.

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

**Foreign Currency Exchange Risk**

Foreign currency rate risk is the potential change in value, income and cash flow arising from adverse changes in foreign currency exchange rates. Through our subsidiaries and branches located in various foreign countries, we conduct our insurance and reinsurance operations in a variety of local currencies other than the U.S. Dollar. We generally hold investments in foreign currencies which are intended to mitigate our exposure to foreign currency fluctuations in our net insurance liabilities. We may also utilize foreign currency forward contracts and currency options as part of our investment strategy. See note 8, "Derivative Instruments," of the notes accompanying our consolidated financial statements for additional information.

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

(U.S. dollars in thousands, except per share data)	March 31, 2016	December 31, 2015
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Net assets (liabilities), denominated in foreign currencies, excluding shareholders' equity and derivatives	\$(111,954)	\$(163,199 )
Shareholders' equity denominated in foreign currencies (1)	327,010	328,133
Net foreign currency forward contracts outstanding (2)	28,944	(97,658 )
Net exposures denominated in foreign currencies	\$244,000	\$ 67,276

Pre-tax impact of a hypothetical 10% appreciation of the U.S. Dollar against foreign currencies:

Shareholders' equity	\$(24,400 )	\$(6,728 )
Book value per common share	\$(0.20 )	\$(0.05 )

Pre-tax impact of a hypothetical 10% decline of the U.S. Dollar against foreign currencies:

Shareholders' equity	\$24,400	\$ 6,728
Book value per common share	\$0.20	\$ 0.05

(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.

As a result of the current financial and economic environment as well as the potential for additional investment returns, we may not match a portion of our projected liabilities in foreign currencies with investments in the same currencies, which

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would increase our exposure to foreign currency fluctuations and increase the volatility in our results of operations. Historical observations indicate a low probability that all foreign currency exchange rates would shift against the U.S. Dollar in the same direction and at the same time and, accordingly, the actual effect of foreign currency rate movements may differ materially from the amounts set forth above. For further discussion on foreign exchange activity, please refer to “—Results of Operations.”

### Other Financial Information

The consolidated financial statements as of March 31, 2016 and for the three month period ended March 31, 2016 and 2015 have been reviewed by PricewaterhouseCoopers LLP,

an independent registered public accounting firm. Their report (dated May 6, 2016) is included on page 2. 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.

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## ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

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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.

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## ITEM 4. CONTROLS AND PROCEDURES

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### 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

There have been no changes in internal control over financial reporting that occurred during the fiscal quarter ended March 31, 2016 that have materially affected, or are reasonably likely to materially affect, internal control over financial reporting.

## PART II. OTHER INFORMATION

## ITEM 1. LEGAL PROCEEDINGS

We, in common with the insurance industry in general, are subject to litigation and arbitration in the normal course of our business. As of March 31, 2016, 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, 2015.

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

The following table summarizes our purchases of our common shares for the 2016 first quarter:

Period	Issuer Purchases of Equity Securities		Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet be Purchased Under the Plan or Programs (2)
	Total Number of Shares Purchased (1)	Average Price Paid per Share		
1/1/2016 - 1/31/2016	611,325	\$ 65.71	602,757	\$ 482,160
2/1/2016 - 2/29/2016	554,121	66.41	537,380	\$ 446,501
3/1/2016 - 3/31/2016	5,365	69.46	—	\$ 446,501
Total	1,170,811	\$ 66.06	1,140,137	\$ 446,501

(1) Includes 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, 2016 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, 2016.

## 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 2016 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.

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ITEM 6. EXHIBITS

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Exhibit No. Description

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, 2016 formatted in XBRL: (i) Consolidated Balance Sheets at March 31, 2016 and December 31, 2015; (ii) Consolidated Statements of Income for the three month periods ended March 31, 2016 and 2015; (iii) Consolidated Statements of Comprehensive Income for the three month periods ended March 31, 2016 and 2015; (iv) Consolidated Statements of Changes in Shareholders' Equity for the three month periods ended March 31, 2016 and 2015; (v) Consolidated Statements of Cash Flows for the three month periods ended March 31, 2016 and 2015; and (vi) Notes to Consolidated Financial Statements.

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SIGNATURES

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

ARCH CAPITAL GROUP LTD.  
(REGISTRANT)

/s/ Constantine Iordanou

Date: May 6,  
2016

Constantine Iordanou

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

/s/ Mark D. Lyons

Date: May 6,  
2016

Mark D. Lyons

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



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