



Arch Capital Group Ltd.
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Financial Supplement

Financial Information as of September 30, 2019

The following financial supplement is provided to assist in your understanding of Arch Capital Group Ltd. (“Arch Capital”) and its subsidiaries (collectively, the “Company”).

This report is for informational purposes only. It should be read in conjunction with documents filed by Arch Capital with the U.S. Securities and Exchange Commission, including the most recent Annual Report on Form 10-K and the Quarterly Reports on Form 10-Q. Please refer to the Company’s website at www.archcapgroup.com for further information describing Arch Capital.

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Arch Capital Group Ltd. and Subsidiaries
Table of Contents

	Page
I. Financial Highlights	<u>3</u>
II. Consolidated Financial Statements	
a. Consolidated Statements of Income	<u>4</u>
b. Consolidated Balance Sheets	<u>5</u>
c. Consolidated Statements of Changes in Shareholders' Equity	<u>6</u>
d. Consolidated Statements of Cash Flows	<u>7</u>
III. Segment Information	
a. Overview	<u>8</u>
b. Consolidated Results	<u>10</u>
c. Insurance Segment Results	<u>14</u>
d. Reinsurance Segment Results	<u>16</u>
e. Mortgage Segment Results	<u>18</u>
f. Consolidated Results Excluding 'Other' Segment	<u>22</u>
g. Selected Information on Losses and Loss Adjustment Expenses	<u>23</u>
IV. Investment Information	
a. Investable Asset Summary and Investment Portfolio Metrics	<u>24</u>
b. Composition of Net Investment Income, Yield and Total Return	<u>25</u>
c. Composition of Fixed Maturities	<u>26</u>
d. Credit Quality Distribution and Maturity Profile	<u>27</u>
e. Analysis of Corporate Exposures	<u>28</u>
f. Structured Securities	<u>29</u>
V. Other	
a. Comments on Regulation G	<u>30</u>
b. Operating Income Reconciliation and Annualized Operating Return on Average Common Equity	<u>31</u>
c. Operating Income and Effective Tax Rate Calculations	<u>32</u>
d. Capital Structure and Share Repurchase Activity	<u>33</u>

Arch Capital Group Ltd. and Subsidiaries
Basis of Presentation

Basis of Presentation

All financial information contained herein is unaudited, however, certain information relating to the consolidated balance sheet at December 31, 2018 is derived from or agrees to audited financial information. Unless otherwise noted, all data is in thousands, except for share and per share amounts and ratio information.

In March 2014, the Company invested \$100.0 million to acquire approximately 11% of Watford Holdings Ltd.'s outstanding common equity and a warrant to purchase additional common equity. In accordance with GAAP, the Company consolidates the results of Watford Holdings Ltd. ("Watford") in its financial statements, although it only owns approximately 11% of Watford's outstanding common equity. Watford is considered a variable interest entity and the Company concluded that it is the primary beneficiary of Watford. **As such, 100% of the results of Watford are included in the Company's consolidated financial statements.** The portion of Watford's earnings owned by third parties is recorded in the consolidated statements of income as 'amounts attributable to noncontrolling interests.' In addition, the Company reflects Watford's redeemable preference shares in the mezzanine section of the Company's consolidated balance sheets as 'redeemable noncontrolling interests' because they have redemption features that are not solely within the control of Watford.

Cautionary Note Regarding Forward-Looking Statements

The Private Securities Litigation Reform Act of 1995 provides a "safe harbor" for forward-looking statements. This release or any other written or oral statements made by or on behalf of Arch Capital and its subsidiaries may include forward-looking statements, which reflect the Company's 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 can generally be identified by the use of forward-looking terminology such as "may," "will," "expect," "intend," "estimate," "anticipate," "believe" or "continue" or their negative or variations or similar terminology. Forward-looking statements involve the Company's current assessment of risks and uncertainties. Actual events and results may differ materially from those expressed or implied in these statements. A non-exclusive list of the important factors that could cause actual results to differ materially from those in such forward-looking statements includes the following: adverse general economic and market conditions; increased competition; pricing and policy term trends; fluctuations in the actions of rating agencies and the Company's ability to maintain and improve the Company's ratings; investment performance; the loss of key personnel; the adequacy of the Company's loss reserves, severity and/or frequency of losses, greater than expected loss ratios and adverse development on claim and/or claim expense liabilities; greater frequency or severity of unpredictable natural and man-made catastrophic events; the impact of acts of terrorism and acts of war; changes in regulations and/or tax laws in the United States or elsewhere; the Company's ability to successfully integrate, establish and maintain operating procedures as well as integrate the businesses we have acquired or may acquire into the existing operations; changes in accounting principles or policies; material differences between actual and expected assessments for guaranty funds and mandatory pooling arrangements; availability and cost to the Company of reinsurance to manage gross and net exposures; the failure of others to meet their obligations to the Company; and other factors identified in the Company's filings with the U.S. Securities and Exchange Commission.

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. All subsequent written and oral forward-looking statements attributable to the Company or persons acting on the Company's behalf are expressly qualified in their entirety by these cautionary statements. The Company undertakes no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

Arch Capital Group Ltd. and Subsidiaries
Financial Highlights

The following table presents financial highlights (1):

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

	Three Months Ended			Nine Months Ended		
	September 30,			September 30,		
	2019	2018	Change	2019	2018	Change
Underwriting results:						
Gross premiums written	\$ 2,043,292	\$ 1,622,532	25.9%	\$ 5,853,574	\$ 4,935,339	18.6 %
Net premiums written	1,457,705	1,181,876	23.3%	4,163,105	3,573,178	16.5 %
Net premiums earned	1,312,191	1,155,255	13.6%	3,847,372	3,430,651	12.1 %
Underwriting income (2)	235,705	234,790	0.4%	798,958	708,130	12.8 %
Loss ratio	53.8%	52.1%	1.7	51.2%	51.0 %	0.2
Acquisition expense ratio	14.3%	14.9%	(0.6)	14.0%	14.6 %	(0.6)
Other operating expense ratio	14.1%	13.1%	1.0	14.5%	14.1 %	0.4
Combined ratio	82.2%	80.1%	2.1	79.7%	79.7 %	—
Net investment income	\$ 126,874	\$ 114,328	11.0%	\$ 371,161	\$ 322,332	15.1 %
<i>Per diluted share</i>	\$ 0.31	\$ 0.28	10.7%	\$ 0.90	\$ 0.78	15.4 %
Net income available to Arch common shareholders	\$ 382,050	\$ 217,006	76.1%	\$ 1,278,726	\$ 587,525	117.6 %
<i>Per diluted share</i>	\$ 0.92	\$ 0.53	73.6%	\$ 3.11	\$ 1.42	119.0 %
After-tax operating income available to Arch common shareholders (2)	\$ 260,952	\$ 242,280	7.7%	\$ 854,282	\$ 720,019	18.6 %
<i>Per diluted share</i>	\$ 0.63	\$ 0.59	6.8%	\$ 2.08	\$ 1.74	19.5 %
Comprehensive income available to Arch	\$ 397,340	\$ 200,524	98.2%	\$ 1,700,369	\$ 432,186	293.4 %
Net cash provided by operating activities	\$ 769,486	\$ 543,205	41.7%	\$ 1,366,762	\$ 947,656	44.2 %
Weighted average common shares and common share equivalents outstanding — diluted	413,180,201	411,721,214	0.4%	410,807,402	413,993,192	(0.8)%
Financial measures:						
Change in book value per common share during period	3.9%	2.3%	1.6	19.0%	4.2 %	14.8
Annualized return on average common equity	15.0%	10.2%	4.8	17.9%	9.3 %	8.6
Annualized operating return on average common equity (2)	10.3%	11.4%	(1.1)	12.0%	11.4 %	0.6
Total return on investments (3)	1.00%	0.31%	69 bps	6.20%	(0.19)%	639 bps

- (1) Presented on a 'core' basis which excludes amounts related to the 'other' segment (*i.e.*, results of Watford). See 'Comments on Regulation G' for a further discussion of the presentation of 'core' results.
- (2) See 'Comments on Regulation G' for a further discussion of consolidated underwriting income or loss, after-tax operating income or loss available to Arch common shareholders and annualized operating return on average common equity.
- (3) Total return on investments includes net investment income, equity in net income (loss) of investment funds accounted for using the equity method, net realized gains and losses and the change in unrealized gains and losses and is calculated on a pre-tax basis and before investment expenses. See 'Comments on Regulation G' for a further discussion of the presentation of total return on investments.

Arch Capital Group Ltd. and Subsidiaries
Consolidated Statements of Income

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

	Three Months Ended				Nine Months Ended		
	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	September 30, 2019	September 30, 2018
Revenues							
Net premiums written	\$ 1,613,457	\$ 1,444,898	\$ 1,525,259	\$ 1,301,754	\$ 1,333,553	\$ 4,583,614	\$ 4,044,993
Change in unearned premiums	(175,434)	18,829	(156,393)	67,681	(42,675)	(312,998)	(182,453)
Net premiums earned	1,438,023	1,463,727	1,368,866	1,369,435	1,290,878	4,270,616	3,862,540
Net investment income	161,488	155,038	156,949	157,217	144,024	473,475	406,416
Net realized gains (losses)	62,518	120,806	141,565	(166,030)	(51,705)	324,889	(239,314)
Net impairment losses recognized in earnings	(1,163)	(49)	(1,309)	(1,705)	(492)	(2,521)	(1,124)
Other underwriting income	3,326	5,953	8,825	27	5,823	18,104	15,046
Equity in net income (loss) of investment funds accounted for using the equity method	17,130	32,536	46,867	(6,882)	15,982	96,533	52,523
Other income (loss)	1,338	1,129	1,083	(42)	(726)	3,550	2,461
Total revenues	1,682,660	1,779,140	1,722,846	1,352,020	1,403,784	5,184,646	4,098,548
Expenses							
Losses and loss adjustment expenses	(802,455)	(767,543)	(718,532)	(827,673)	(699,420)	(2,288,530)	(2,062,433)
Acquisition expenses	(211,120)	(210,089)	(197,848)	(209,319)	(201,602)	(619,057)	(595,816)
Other operating expenses	(196,512)	(198,914)	(201,163)	(165,515)	(161,098)	(596,589)	(512,294)
Corporate expenses	(17,061)	(18,251)	(17,962)	(26,835)	(14,335)	(53,274)	(52,159)
Amortization of intangible assets	(20,003)	(19,794)	(20,417)	(26,147)	(26,315)	(60,214)	(79,523)
Interest expense	(31,328)	(29,280)	(29,065)	(29,774)	(29,730)	(89,673)	(90,710)
Net foreign exchange gains (losses)	33,124	(4,952)	3,525	24,579	10,838	31,697	44,823
Total expenses	(1,245,355)	(1,248,823)	(1,181,462)	(1,260,684)	(1,121,662)	(3,675,640)	(3,348,112)
Income before income taxes	437,305	530,317	541,384	91,336	282,122	1,509,006	750,436
Income tax expense	(38,116)	(44,472)	(45,886)	(35,012)	(33,356)	(128,474)	(78,939)
Net income	399,189	485,845	495,498	56,324	248,766	1,380,532	671,497
Net (income) loss attributable to noncontrolling interests	(6,736)	(16,891)	(46,970)	80,170	(21,358)	(70,597)	(50,020)
Net income attributable to Arch	392,453	468,954	448,528	136,494	227,408	1,309,935	621,477
Preferred dividends	(10,403)	(10,403)	(10,403)	(10,403)	(10,402)	(31,209)	(31,242)
Loss on redemption of preferred shares	—	—	—	—	—	—	(2,710)
Net income available to Arch common shareholders	\$ 382,050	\$ 458,551	\$ 438,125	\$ 126,091	\$ 217,006	\$ 1,278,726	\$ 587,525
Comprehensive income available to Arch	\$ 397,340	\$ 637,458	\$ 665,571	\$ 178,817	\$ 200,524	\$ 1,700,369	\$ 432,186
Net income per common share and common share equivalent							
Basic	\$ 0.95	\$ 1.14	\$ 1.09	\$ 0.31	\$ 0.54	\$ 3.19	\$ 1.45
Diluted	\$ 0.92	\$ 1.12	\$ 1.07	\$ 0.31	\$ 0.53	\$ 3.11	\$ 1.42
Weighted average common shares and common share equivalents outstanding							
Basic	402,564,121	401,482,784	400,184,404	402,185,557	402,939,092	401,419,153	405,076,228
Diluted	413,180,201	410,899,483	408,971,029	410,112,097	411,721,214	410,807,402	413,993,192

Arch Capital Group Ltd. and Subsidiaries
Consolidated Balance Sheets

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

	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018
Assets					
Investments:					
Fixed maturities available for sale, at fair value	\$ 16,470,523	\$ 15,881,732	\$ 15,177,312	\$ 14,699,010	\$ 14,331,641
Short-term investments available for sale, at fair value	751,989	821,961	706,214	955,880	961,799
Collateral received under securities lending, at fair value	430,263	450,320	415,056	274,133	306,893
Equity securities, at fair value	550,485	670,943	495,895	338,899	444,118
Investments accounted for using the fair value option	3,838,243	3,721,035	3,969,623	3,983,571	4,097,735
Investments accounted for using the equity method	1,575,832	1,581,972	1,563,779	1,493,791	1,524,242
Total investments	23,617,335	23,127,963	22,327,879	21,745,284	21,666,428
Cash	880,099	605,316	633,100	646,556	651,037
Accrued investment income	116,196	119,252	112,935	114,641	106,543
Securities pledged under securities lending, at fair value	420,415	440,510	404,262	268,395	299,409
Premiums receivable	1,618,186	1,606,040	1,584,682	1,299,150	1,307,466
Reinsurance recoverable on unpaid and paid losses and loss adjustment expenses	3,168,195	3,171,257	3,099,823	2,919,372	2,749,785
Contractholder receivables	2,094,683	2,102,544	2,087,720	2,079,111	2,067,268
Ceded unearned premiums	1,168,258	1,136,728	1,099,581	975,469	1,011,850
Deferred acquisition costs	622,028	600,740	597,526	569,574	572,987
Receivable for securities sold	50,615	164,592	334,982	36,246	278,753
Goodwill and intangible assets	624,500	641,010	659,215	634,920	566,662
Other assets	1,192,093	1,135,718	1,035,332	929,611	974,346
Total assets	\$ 35,572,603	\$ 34,851,670	\$ 33,977,037	\$ 32,218,329	\$ 32,252,534
Liabilities					
Reserve for losses and loss adjustment expenses	\$ 12,389,384	\$ 12,230,316	\$ 12,010,041	\$ 11,853,297	\$ 11,554,321
Unearned premiums	4,243,372	4,056,860	4,036,119	3,753,636	3,868,379
Reinsurance balances payable	601,891	531,990	453,058	393,107	404,936
Contractholder payables	2,094,683	2,102,544	2,087,720	2,079,111	2,067,268
Collateral held for insured obligations	205,449	237,056	232,411	236,630	249,723
Senior notes	1,871,386	1,733,865	1,733,694	1,733,528	1,733,364
Revolving credit agreement borrowings	490,720	491,006	488,612	455,682	554,756
Securities lending payable	430,255	450,312	415,048	274,125	306,886
Payable for securities purchased	176,130	294,109	376,332	90,034	255,427
Other liabilities	1,007,524	904,438	984,942	911,500	819,373
Total liabilities	23,510,794	23,032,496	22,817,977	21,780,650	21,814,433
Redeemable noncontrolling interests	48,789	206,475	206,383	206,292	206,199
Shareholders' equity					
Non-cumulative preferred shares	780,000	780,000	780,000	780,000	780,000
Common shares	638	638	636	634	633
Additional paid-in capital	1,864,468	1,847,949	1,819,605	1,793,781	1,775,499
Retained earnings	10,705,025	10,322,975	9,864,424	9,426,299	9,300,208
Accumulated other comprehensive income (loss), net of deferred income tax	211,714	206,827	38,323	(178,720)	(221,041)
Common shares held in treasury, at cost	(2,403,749)	(2,401,037)	(2,388,392)	(2,382,167)	(2,280,151)
Total shareholders' equity available to Arch	11,158,096	10,757,352	10,114,596	9,439,827	9,355,148
Non-redeemable noncontrolling interests	854,924	855,347	838,081	791,560	876,754
Total shareholders' equity	12,013,020	11,612,699	10,952,677	10,231,387	10,231,902
Total liabilities, noncontrolling interests and shareholders' equity	\$ 35,572,603	\$ 34,851,670	\$ 33,977,037	\$ 32,218,329	\$ 32,252,534
Common shares and common share equivalents outstanding, net of treasury shares	405,230,531	404,887,534	403,738,764	402,454,834	405,524,360
Book value per common share (1)	\$ 25.61	\$ 24.64	\$ 23.12	\$ 21.52	\$ 21.15

(1) Excludes the effects of stock options and restricted stock units outstanding.

Arch Capital Group Ltd. and Subsidiaries
Consolidated Statements of Changes in Shareholders' Equity

(U.S. Dollars in thousands)

	Three Months Ended				Nine Months Ended	
	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	September 30, 2018
Non-cumulative preferred shares						
Balance at beginning of period	\$ 780,000	\$ 780,000	\$ 780,000	\$ 780,000	\$ 780,000	\$ 872,555
Preferred shares redeemed	—	—	—	—	—	(92,555)
Balance at end of period	<u>\$ 780,000</u>	<u>\$ 780,000</u>	<u>\$ 780,000</u>	<u>\$ 780,000</u>	<u>\$ 780,000</u>	<u>\$ 780,000</u>
Convertible non-voting common equivalent preferred shares						
Balance at beginning of period	—	—	—	—	—	489,627
Preferred shares converted to common shares	—	—	—	—	—	(489,627)
Balance at end of period	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Common shares						
Balance at beginning of period	638	636	634	633	633	611
Common shares issued, net	—	2	2	1	—	22
Balance at end of period	<u>638</u>	<u>638</u>	<u>636</u>	<u>634</u>	<u>633</u>	<u>633</u>
Additional paid-in capital						
Balance at beginning of period	1,847,949	1,819,605	1,793,781	1,775,499	1,760,606	1,230,617
Preferred shares converted to common shares	—	—	—	—	—	489,608
Reversal of original issue costs on redeemed preferred shares	—	—	—	—	—	2,710
All other	16,519	28,344	25,824	18,282	14,893	70,687
Balance at end of period	<u>1,864,468</u>	<u>1,847,949</u>	<u>1,819,605</u>	<u>1,793,781</u>	<u>1,775,499</u>	<u>1,775,499</u>
Retained earnings						
Balance at beginning of period	10,322,975	9,864,424	9,426,299	9,300,208	9,083,202	8,562,889
Cumulative effect of an accounting change	—	—	—	—	—	149,794
Balance at beginning of period, as adjusted	10,322,975	9,864,424	9,426,299	9,300,208	9,083,202	8,712,683
Net income	399,189	485,845	495,498	56,324	248,766	1,380,532
Amounts attributable to noncontrolling interests	(6,736)	(16,891)	(46,970)	80,170	(21,358)	(70,597)
Preferred share dividends	(10,403)	(10,403)	(10,403)	(10,403)	(10,402)	(31,242)
Loss on redemption of preferred shares	—	—	—	—	—	(2,710)
Balance at end of period	<u>10,705,025</u>	<u>10,322,975</u>	<u>9,864,424</u>	<u>9,426,299</u>	<u>9,300,208</u>	<u>10,705,025</u>
Accumulated other comprehensive income (loss)						
Balance at beginning of period	206,827	38,323	(178,720)	(221,041)	(194,157)	118,044
Cumulative effect of an accounting change	—	—	—	—	—	(149,794)
Change in unrealized appreciation (decline) in value of available-for-sale investments, net of deferred income tax	21,566	164,425	211,380	58,042	(28,867)	397,371
Change in foreign currency translation adjustments	(16,679)	4,079	5,663	(15,721)	1,983	(6,937)
Balance at end of period	<u>211,714</u>	<u>206,827</u>	<u>38,323</u>	<u>(178,720)</u>	<u>(221,041)</u>	<u>(221,041)</u>
Common shares held in treasury, at cost						
Balance at beginning of period	(2,401,037)	(2,388,392)	(2,382,167)	(2,280,151)	(2,266,529)	(2,382,167)
Shares repurchased for treasury	(2,712)	(12,645)	(6,225)	(102,016)	(13,622)	(21,582)
Balance at end of period	<u>(2,403,749)</u>	<u>(2,401,037)</u>	<u>(2,388,392)</u>	<u>(2,382,167)</u>	<u>(2,280,151)</u>	<u>(2,403,749)</u>
Total shareholders' equity available to Arch	<u>11,158,096</u>	<u>10,757,352</u>	<u>10,114,596</u>	<u>9,439,827</u>	<u>9,355,148</u>	<u>11,158,096</u>
Non-redeemable noncontrolling interests	854,924	855,347	838,081	791,560	876,754	876,754
Total shareholders' equity	<u>\$ 12,013,020</u>	<u>\$ 11,612,699</u>	<u>\$ 10,952,677</u>	<u>\$ 10,231,387</u>	<u>\$ 10,231,902</u>	<u>\$ 12,013,020</u>

Arch Capital Group Ltd. and Subsidiaries
Consolidated Statements of Cash Flows

(U.S. Dollars in thousands)

	Three Months Ended				Nine Months Ended		
	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	September 30, 2018	
Operating Activities							
Net income	\$ 399,189	\$ 485,845	\$ 495,498	\$ 56,324	\$ 248,766	\$ 1,380,532	\$ 671,497
Adjustments to reconcile net income to net cash provided by operating activities:							
Net realized (gains) losses	(64,760)	(118,893)	(145,400)	162,793	47,315	(329,053)	224,757
Net impairment losses included in earnings	1,163	49	1,309	1,705	492	2,521	1,124
Equity in net income or loss of investment funds accounted for using the equity method and other income or loss	6,808	(15,968)	(29,752)	30,337	19,900	(38,912)	6,357
Amortization of intangible assets	20,003	19,794	20,417	26,147	26,315	60,214	79,523
Share-based compensation	12,895	15,646	25,891	9,970	10,387	54,432	45,806
Changes in:							
Reserve for losses and loss adjustment expenses, net	222,678	160,401	(6,005)	175,489	146,136	377,074	68,245
Unearned premiums, net	175,434	(18,829)	156,393	(67,681)	42,675	312,998	182,453
Premiums receivable	(26,715)	(16,913)	(285,137)	(8,049)	33,703	(328,765)	(203,247)
Deferred acquisition costs	(13,816)	(1,622)	(23,168)	(1,773)	(963)	(38,606)	(36,074)
Reinsurance balances payable	75,487	76,810	62,605	(10,258)	(5,265)	214,902	83,696
Other items, net	22,249	(109,194)	(37,253)	63,331	54,640	(124,198)	(3,150)
Net cash provided by operating activities	<u>830,615</u>	<u>477,126</u>	<u>235,398</u>	<u>438,335</u>	<u>624,101</u>	<u>1,543,139</u>	<u>1,120,987</u>
Investing Activities							
Purchases of fixed maturity investments	(7,677,977)	(8,888,176)	(7,444,470)	(8,489,743)	(7,970,347)	(24,010,623)	(24,837,917)
Purchases of equity securities	(92,112)	(228,129)	(203,810)	(181,807)	(139,679)	(524,051)	(819,342)
Purchases of other investments	(337,862)	(352,470)	(324,593)	(471,290)	(526,185)	(1,014,925)	(1,543,332)
Proceeds from sales of fixed maturity investments	7,075,372	8,555,892	7,076,590	8,203,068	7,219,660	22,707,854	23,310,203
Proceeds from sales of equity securities	194,429	81,684	95,017	251,526	244,851	371,130	866,919
Proceeds from sales, redemptions and maturities of other investments	292,819	318,215	216,483	383,923	404,737	827,517	1,178,035
Proceeds from redemptions and maturities of fixed maturity investments	149,770	144,525	100,424	168,734	212,573	394,719	724,021
Net settlements of derivative instruments	4,722	57,964	29,737	43,934	(3,733)	92,423	765
Net (purchases) sales of short-term investments	(72,442)	(91,081)	292,601	(68,842)	102,414	129,078	554,315
Change in cash collateral related to securities lending	(600)	37,208	(29,618)	43,810	(39,231)	6,990	137,073
Purchases of fixed assets	(11,276)	(6,936)	(9,423)	(10,759)	(5,808)	(27,635)	(19,050)
Other	(28,375)	(80,847)	(93,731)	(36,491)	8,266	(202,953)	58,227
Net cash provided by (used for) investing activities	<u>(503,532)</u>	<u>(452,151)</u>	<u>(294,793)</u>	<u>(163,937)</u>	<u>(492,482)</u>	<u>(1,250,476)</u>	<u>(390,083)</u>
Financing Activities							
Redemption of preferred shares	—	—	—	—	—	—	(92,555)
Purchases of common shares under share repurchase program	—	—	(2,871)	(98,233)	(10,954)	(2,871)	(184,529)
Proceeds from common shares issued, net	1,075	1,344	(1,901)	4,421	1,822	518	(12,029)
Proceeds from borrowings	137,283	3,800	59,000	51,000	36,680	200,083	167,259
Repayments of borrowings	—	(1,500)	(26,038)	(149,401)	(54,000)	(27,538)	(427,000)
Change in cash collateral related to securities lending	600	(37,208)	29,618	(43,810)	39,231	(6,990)	(137,073)
Change in third party investment in redeemable noncontrolling interests	(161,874)	—	—	—	—	(161,874)	—
Dividends paid to redeemable noncontrolling interests	(2,414)	(4,497)	(4,497)	(4,498)	(4,497)	(11,408)	(13,491)
Other	(1,678)	(2,140)	(1,389)	(1,142)	(1,595)	(5,207)	(6,084)
Preferred dividends paid	(10,403)	(10,403)	(10,403)	(10,403)	(10,402)	(31,209)	(31,242)
Net cash provided by (used for) financing activities	<u>(37,411)</u>	<u>(50,604)</u>	<u>41,519</u>	<u>(252,066)</u>	<u>(3,715)</u>	<u>(46,496)</u>	<u>(736,744)</u>
Effects of exchange rate changes on foreign currency cash and restricted cash	(10,272)	(1,512)	3,449	(7,508)	(1,194)	(8,335)	(11,625)
Increase (decrease) in cash and restricted cash	279,400	(27,141)	(14,427)	14,824	126,710	237,832	(17,465)
Cash and restricted cash, beginning of period	683,075	710,216	724,643	709,819	583,109	724,643	727,284
Cash and restricted cash, end of period	<u>\$ 962,475</u>	<u>\$ 683,075</u>	<u>\$ 710,216</u>	<u>\$ 724,643</u>	<u>\$ 709,819</u>	<u>\$ 962,475</u>	<u>\$ 709,819</u>
Income taxes paid (received)	\$ 3,565	\$ 76,166	\$ (32,666)	\$ 33,032	\$ 12,499	\$ 47,065	\$ (34,012)
Interest paid	\$ 7,702	\$ 54,612	\$ 6,246	\$ 52,170	\$ 6,748	\$ 68,560	\$ 67,605
Net cash provided by operating activities, excluding the 'other' segment	\$ 769,486	\$ 431,865	\$ 165,411	\$ 383,622	\$ 543,205	\$ 1,366,762	\$ 947,656

Arch Capital Group Ltd. and Subsidiaries

Segment Information — Overview

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’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 President and Chief Executive Officer of Arch Capital and the Chief Financial Officer of Arch Capital. 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 core underwriting segments based on underwriting income or loss. The Company does not manage its assets by underwriting segment and, accordingly, investment income is not allocated to each underwriting segment.

The Company determined its reportable operating 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.

Insurance 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*: primary and excess casualty coverages to middle and large accounts in the construction industry and a wide range of products for middle and large national accounts, specializing in loss sensitive primary casualty insurance programs (including large deductible, self-insured retention and retrospectively rated programs).
- *Excess and surplus casualty*: primary and excess casualty insurance coverages, including middle market energy business, and contract binding, which primarily provides casualty coverage through a network of appointed agents to small and medium risks.
- *Lenders products*: collateral protection, debt cancellation and service contract reimbursement products to banks, credit unions, automotive dealerships and original equipment manufacturers and other specialty programs that pertain to automotive lending and leasing.
- *Professional lines*: directors’ and officers’ liability, errors and omissions liability, employment practices liability, fiduciary liability, crime, professional indemnity and other financial related coverages for corporate, private equity, venture capital, real estate investment trust, limited partnership, financial institution and not-for-profit clients of all sizes and medical professional and general liability insurance coverages for the healthcare industry. The business is predominately written on a claims-made basis.
- *Programs*: primarily package policies, underwriting workers’ compensation and umbrella liability business in support of desirable package programs, targeting program managers with unique expertise and niche products offering general liability, commercial automobile, inland marine and property business with minimal catastrophe exposure.
- *Property, energy, marine and aviation*: primary and excess general property insurance coverages, including catastrophe-exposed property coverage, for commercial clients. Coverages for marine include hull, war, specie and liability. Aviation and stand alone terrorism are also offered.
- *Travel, accident and health*: specialty travel and accident and related insurance products for individual, group travelers, travel agents and suppliers, as well as accident and health, which provides accident, disability and medical plan insurance coverages for employer groups, medical plan members, students and other participant groups.
- *Other*: includes alternative market risks (including captive insurance programs), excess workers’ compensation and employer’s liability insurance coverages for qualified self-insured groups, associations and trusts, and contract and commercial surety coverages, including contract bonds (payment and performance bonds) primarily for medium and large contractors and commercial surety bonds for Fortune 1,000 companies and smaller transaction business programs.

Arch Capital Group Ltd. and Subsidiaries Segment Information — Overview

Reinsurance Segment

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

- *Casualty*: provides coverage to ceding company clients on third party liability and workers' compensation exposures from ceding company clients, primarily on a treaty basis. Exposures include, among others, executive assurance, professional liability, workers' compensation, excess and umbrella liability, excess motor and healthcare business.
- *Marine and aviation*: provides coverage for energy, hull, cargo, specie, liability and transit, and aviation business, including airline and general aviation risks. Business written may also include space business, which includes coverages for satellite assembly, launch and operation for commercial space programs.
- *Other specialty*: provides coverage to ceding company clients for proportional motor and other lines including surety, accident and health, workers' compensation catastrophe, agriculture, trade credit and political risk.
- *Property catastrophe*: provides protection for most catastrophic losses that are covered in the underlying policies written by reinsureds, including hurricane, earthquake, flood, tornado, hail and fire, and coverage for other perils on a case-by-case basis. Property catastrophe reinsurance provides coverage on an excess of loss basis when aggregate losses and loss adjustment expense from a single occurrence of a covered peril exceed the retention specified in the contract.
- *Property excluding property catastrophe*: provides coverage for both personal lines and commercial property exposures and principally covers buildings, structures, equipment and contents. The primary perils in this business include fire, explosion, collapse, riot, vandalism, wind, tornado, flood and earthquake. Business is assumed on both a proportional and excess of loss basis. In addition, facultative business is written which focuses on commercial property risks on an excess of loss basis.
- *Other*: includes life reinsurance business on both a proportional and non-proportional basis, casualty clash business and, in limited instances, non-traditional business which is intended to provide insurers with risk management solutions that complement traditional reinsurance.

Mortgage Segment

The mortgage segment includes the Company's U.S. and international mortgage insurance and reinsurance operations as well as government sponsored enterprise ("GSE") credit-risk sharing transactions. Arch Mortgage Insurance Company and United Guaranty Residential Insurance Company (combined "Arch MI U.S.") are approved as eligible mortgage insurers by Fannie Mae and Freddie Mac.

Corporate (Non-Underwriting) Segment

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

Other Segment

The 'other' segment includes the results of Watford. Subsidiaries of the Company act as Watford's reinsurance and insurance underwriting managers while HPS Investment Partners, LLC manages Watford's non-investment grade credit portfolios and the Company manages Watford's investment grade portfolios, all under long term services agreements. Pursuant to generally accepted accounting principles, Watford is considered a variable interest entity and the Company concluded that it is the primary beneficiary of Watford. As such, the Company consolidates the results of Watford in its consolidated financial statements, although it only owns approximately 11% of Watford's common equity (listed on the Nasdaq Select Global Market under the ticker symbol "WTRE"). Watford has its own management and board of directors that is responsible for its own results and profitability. The portion of Watford's earnings attributable to third party investors is recorded in the consolidated statements of income as 'amounts attributable to noncontrolling interests.' Management measures segment performance for the 'other' segment based on net income or loss.

Arch Capital Group Ltd. and Subsidiaries
Segment Information

(U.S. Dollars in thousands)

Three Months Ended
September 30, 2019

	Insurance	Reinsurance	Mortgage	Sub-total (Core)	Other	Total
Gross premiums written (1)	\$ 1,005,874	\$ 662,572	\$ 375,092	\$ 2,043,292	\$ 249,960	\$ 2,181,121
Premiums ceded	(302,034)	(226,096)	(57,703)	(585,587)	(94,208)	(567,664)
Net premiums written	703,840	436,476	317,389	1,457,705	155,752	1,613,457
Change in unearned premiums	(98,504)	(72,621)	25,611	(145,514)	(29,920)	(175,434)
Net premiums earned	605,336	363,855	343,000	1,312,191	125,832	1,438,023
Other underwriting income	—	(1,208)	3,955	2,747	579	3,326
Losses and loss adjustment expenses	(422,782)	(270,379)	(13,080)	(706,241)	(96,214)	(802,455)
Acquisition expenses	(91,259)	(62,393)	(34,396)	(188,048)	(23,072)	(211,120)
Other operating expenses	(115,408)	(32,533)	(37,003)	(184,944)	(11,568)	(196,512)
Underwriting income (loss)	\$ (24,113)	\$ (2,658)	\$ 262,476	235,705	(4,443)	231,262
Net investment income				126,874	34,614	161,488
Net realized gains				81,177	(18,659)	62,518
Net impairment losses recognized in earnings				(1,163)	—	(1,163)
Equity in net income (loss) of investment funds accounted for using the equity method				17,130	—	17,130
Other income				1,338	—	1,338
Corporate expenses (2)				(15,066)	—	(15,066)
Transaction costs and other (2)				(1,995)	—	(1,995)
Amortization of intangible assets				(20,003)	—	(20,003)
Interest expense				(23,237)	(8,091)	(31,328)
Net foreign exchange gains (losses)				29,794	3,330	33,124
Income before income taxes				430,554	6,751	437,305
Income tax expense				(38,116)	—	(38,116)
Net income				392,438	6,751	399,189
Dividends attributable to redeemable noncontrolling interests				—	(6,600)	(6,600)
Amounts attributable to nonredeemable noncontrolling interests				—	(136)	(136)
Net income available to Arch				392,438	15	392,453
Preferred dividends				(10,403)	—	(10,403)
Net income available to Arch common shareholders				\$ 382,035	\$ 15	\$ 382,050
Underwriting Ratios						
Loss ratio	69.8%	74.3%	3.8%	53.8%	76.5%	55.8%
Acquisition expense ratio	15.1%	17.1%	10.0%	14.3%	18.3%	14.7%
Other operating expense ratio	19.1%	8.9%	10.8%	14.1%	9.2%	13.7%
Combined ratio	104.0%	100.3%	24.6%	82.2%	104.0%	84.2%
Net premiums written to gross premiums written	70.0%	65.9%	84.6%	71.3%	62.3%	74.0%
Total investable assets				\$ 21,566,088	\$ 2,730,247	\$ 24,296,335
Total assets				31,961,107	3,611,496	35,572,603
Total liabilities				20,912,352	2,598,442	23,510,794

- (1) Certain amounts included in the gross premiums written of each segment are related to intersegment transactions and are included in the gross premiums written of each segment. Accordingly, the sum of gross premiums written for each segment does not agree to the total gross premiums written as shown in the table above due to the elimination of intersegment transactions in the total.
- (2) Certain expenses have been excluded from 'corporate expenses' and reflected in 'Transaction costs and other.' See 'Comments on Regulation G' for a further discussion of such items.

Arch Capital Group Ltd. and Subsidiaries
Segment Information

(U.S. Dollars in thousands)

Three Months Ended
September 30, 2018

	Insurance	Reinsurance	Mortgage	Sub-total (Core)	Other	Total
Gross premiums written (1)	\$ 836,820	\$ 435,396	\$ 350,559	\$ 1,622,532	\$ 185,033	\$ 1,731,328
Premiums ceded	(259,968)	(123,705)	(57,226)	(440,656)	(33,356)	(397,775)
Net premiums written	576,852	311,691	293,333	1,181,876	151,677	1,333,553
Change in unearned premiums	(15,794)	(18,418)	7,591	(26,621)	(16,054)	(42,675)
Net premiums earned	561,058	293,273	300,924	1,155,255	135,623	1,290,878
Other underwriting income (loss)	—	1,387	3,733	5,120	703	5,823
Losses and loss adjustment expenses	(409,435)	(183,413)	(9,615)	(602,463)	(96,957)	(699,420)
Acquisition expenses	(88,255)	(50,367)	(33,361)	(171,983)	(29,619)	(201,602)
Other operating expenses	(90,081)	(29,936)	(31,122)	(151,139)	(9,959)	(161,098)
Underwriting income (loss)	\$ (26,713)	\$ 30,944	\$ 230,559	234,790	(209)	234,581
Net investment income				114,328	29,696	144,024
Net realized gains (losses)				(47,010)	(4,695)	(51,705)
Net impairment losses recognized in earnings				(492)	—	(492)
Equity in net income (loss) of investment funds accounted for using the equity method				15,982	—	15,982
Other income (loss)				(726)	—	(726)
Corporate expenses (2)				(13,244)	—	(13,244)
Transaction costs and other (2)				(1,091)	—	(1,091)
Amortization of intangible assets				(26,315)	—	(26,315)
Interest expense				(24,666)	(5,064)	(29,730)
Net foreign exchange gains (losses)				7,130	3,708	10,838
Income before income taxes				258,686	23,436	282,122
Income tax expense				(33,356)	—	(33,356)
Net income				225,330	23,436	248,766
Dividends attributable to redeemable noncontrolling interests				—	(4,599)	(4,599)
Amounts attributable to nonredeemable noncontrolling interests				—	(16,759)	(16,759)
Net income available to Arch				225,330	2,078	227,408
Preferred dividends				(10,402)	—	(10,402)
Net income available to Arch common shareholders				\$ 214,928	\$ 2,078	\$ 217,006
Underwriting Ratios						
Loss ratio	73.0%	62.5%	3.2%	52.1%	71.5%	54.2%
Acquisition expense ratio	15.7%	17.2%	11.1%	14.9%	21.8%	15.6%
Other operating expense ratio	16.1%	10.2%	10.3%	13.1%	7.3%	12.5%
Combined ratio	104.8%	89.9%	24.6%	80.1%	100.6%	82.3%
Net premiums written to gross premiums written	68.9%	71.6%	83.7%	72.8%	82.0%	77.0%
Total investable assets				\$ 19,592,182	\$ 2,732,060	\$ 22,324,242
Total assets				28,833,083	3,419,451	32,252,534
Total liabilities				19,601,237	2,213,196	21,814,433

- (1) Certain amounts included in the gross premiums written of each segment are related to intersegment transactions and are included in the gross premiums written of each segment. Accordingly, the sum of gross premiums written for each segment does not agree to the total gross premiums written as shown in the table above due to the elimination of intersegment transactions in the total.
- (2) Certain expenses have been excluded from 'corporate expenses' and reflected in 'Transaction costs and other.' See 'Comments on Regulation G' for a further discussion of such items.

Arch Capital Group Ltd. and Subsidiaries
Segment Information

(U.S. Dollars in thousands)

	Nine Months Ended September 30, 2019					
	Insurance	Reinsurance	Mortgage	Sub-total (Core)	Other	Total
Gross premiums written (1)	\$ 2,867,753	\$ 1,890,974	\$ 1,095,607	\$ 5,853,574	\$ 598,627	\$ 6,196,809
Premiums ceded	(914,751)	(627,120)	(149,358)	(1,690,469)	(178,118)	(1,613,195)
Net premiums written	1,953,002	1,263,854	946,249	4,163,105	420,509	4,583,614
Change in unearned premiums	(201,719)	(186,450)	72,436	(315,733)	2,735	(312,998)
Net premiums earned	1,751,283	1,077,404	1,018,685	3,847,372	423,244	4,270,616
Other underwriting income	—	4,393	11,867	16,260	1,844	18,104
Losses and loss adjustment expenses	(1,168,677)	(751,147)	(50,226)	(1,970,050)	(318,480)	(2,288,530)
Acquisition expenses	(265,177)	(173,504)	(98,722)	(537,403)	(81,654)	(619,057)
Other operating expenses	(338,327)	(102,197)	(116,697)	(557,221)	(39,368)	(596,589)
Underwriting income (loss)	\$ (20,898)	\$ 54,949	\$ 764,907	798,958	(14,414)	784,544
Net investment income				371,161	102,314	473,475
Net realized gains (losses)				318,722	6,167	324,889
Net impairment losses recognized in earnings				(2,521)	—	(2,521)
Equity in net income (loss) of investment funds accounted for using the equity method				96,533	—	96,533
Other income (loss)				3,550	—	3,550
Corporate expenses (2)				(47,911)	—	(47,911)
Transaction costs and other (2)				(5,363)	—	(5,363)
Amortization of intangible assets				(60,214)	—	(60,214)
Interest expense				(70,094)	(19,579)	(89,673)
Net foreign exchange gains (losses)				28,779	2,918	31,697
Income before income taxes				1,431,600	77,406	1,509,006
Income tax expense				(128,454)	(20)	(128,474)
Net income				1,303,146	77,386	1,380,532
Dividends attributable to redeemable noncontrolling interests				—	(15,778)	(15,778)
Amounts attributable to nonredeemable noncontrolling interests				—	(54,819)	(54,819)
Net income available to Arch				1,303,146	6,789	1,309,935
Preferred dividends				(31,209)	—	(31,209)
Net income available to Arch common shareholders				\$ 1,271,937	\$ 6,789	\$ 1,278,726
Underwriting Ratios						
Loss ratio	66.7%	69.7%	4.9%	51.2%	75.2%	53.6%
Acquisition expense ratio	15.1%	16.1%	9.7%	14.0%	19.3%	14.5%
Other operating expense ratio	19.3%	9.5%	11.5%	14.5%	9.3%	14.0%
Combined ratio	101.1%	95.3%	26.1%	79.7%	103.8%	82.1%
Net premiums written to gross premiums written	68.1%	66.8%	86.4%	71.1%	70.2%	74.0%

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

(2) Certain expenses have been excluded from 'corporate expenses' and reflected in 'Transaction costs and other.' See 'Comments on Regulation G' for a further discussion of such items.

Arch Capital Group Ltd. and Subsidiaries
Segment Information

(U.S. Dollars in thousands)

	Nine Months Ended September 30, 2018					
	Insurance	Reinsurance	Mortgage	Sub-total (Core)	Other	Total
Gross premiums written (1)	\$ 2,429,570	\$ 1,503,206	\$ 1,002,727	\$ 4,935,339	\$ 574,078	\$ 5,266,086
Premiums ceded	(752,413)	(455,682)	(154,230)	(1,362,161)	(102,263)	(1,221,093)
Net premiums written	1,677,157	1,047,524	848,497	3,573,178	471,815	4,044,993
Change in unearned premiums	(30,913)	(134,761)	23,147	(142,527)	(39,926)	(182,453)
Net premiums earned	1,646,244	912,763	871,644	3,430,651	431,889	3,862,540
Other underwriting income (loss)	—	2,490	10,464	12,954	2,092	15,046
Losses and loss adjustment expenses	(1,120,630)	(555,044)	(74,672)	(1,750,346)	(312,087)	(2,062,433)
Acquisition expenses	(264,094)	(148,828)	(87,665)	(500,587)	(95,229)	(595,816)
Other operating expenses	(274,735)	(101,185)	(108,622)	(484,542)	(27,752)	(512,294)
Underwriting income (loss)	\$ (13,215)	\$ 110,196	\$ 611,149	708,130	(1,087)	707,043
Net investment income				322,332	84,084	406,416
Net realized gains (losses)				(218,414)	(20,900)	(239,314)
Net impairment losses recognized in earnings				(1,124)	—	(1,124)
Equity in net income (loss) of investment funds accounted for using the equity method				52,523	—	52,523
Other income (loss)				2,461	—	2,461
Corporate expenses (2)				(43,330)	—	(43,330)
Transaction costs and other (2)				(8,829)	—	(8,829)
Amortization of intangible assets				(79,523)	—	(79,523)
Interest expense				(76,631)	(14,079)	(90,710)
Net foreign exchange gains (losses)				38,302	6,521	44,823
Income before income taxes				695,897	54,539	750,436
Income tax expense				(78,912)	(27)	(78,939)
Net income				616,985	54,512	671,497
Dividends attributable to redeemable noncontrolling interests				—	(13,769)	(13,769)
Amounts attributable to nonredeemable noncontrolling interests				—	(36,251)	(36,251)
Net income available to Arch				616,985	4,492	621,477
Preferred dividends				(31,242)	—	(31,242)
Loss on redemption of preferred shares				(2,710)	—	(2,710)
Net income available to Arch common shareholders				\$ 583,033	\$ 4,492	\$ 587,525
Underwriting Ratios						
Loss ratio	68.1%	60.8%	8.6%	51.0%	72.3%	53.4%
Acquisition expense ratio	16.0%	16.3%	10.1%	14.6%	22.0%	15.4%
Other operating expense ratio	16.7%	11.1%	12.5%	14.1%	6.4%	13.3%
Combined ratio	100.8%	88.2%	31.2%	79.7%	100.7%	82.1%
Net premiums written to gross premiums written	69.0%	69.7%	84.6%	72.4%	82.2%	76.8%

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

(2) Certain expenses have been excluded from 'corporate expenses' and reflected in 'Transaction costs and other.' See 'Comments on Regulation G' for a further discussion of such items.

Arch Capital Group Ltd. and Subsidiaries
Segment Information — Insurance Segment

(U.S. Dollars in thousands)

	Three Months Ended					Nine Months Ended	
	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	September 30, 2019	September 30, 2018
Gross premiums written	\$ 1,005,874	\$ 919,925	\$ 941,954	\$ 832,762	\$ 836,820	\$ 2,867,753	\$ 2,429,570
Premiums ceded	(302,034)	(292,095)	(320,622)	(297,794)	(259,968)	(914,751)	(752,413)
Net premiums written	703,840	627,830	621,332	534,968	576,852	1,953,002	1,677,157
Change in unearned premiums	(98,504)	(35,388)	(67,827)	24,449	(15,794)	(201,719)	(30,913)
Net premiums earned	605,336	592,442	553,505	559,417	561,058	1,751,283	1,646,244
Losses and loss adjustment expenses	(422,782)	(389,172)	(356,723)	(400,050)	(409,435)	(1,168,677)	(1,120,630)
Acquisition expenses	(91,259)	(91,094)	(82,824)	(85,608)	(88,255)	(265,177)	(264,094)
Other operating expenses	(115,408)	(109,523)	(113,396)	(89,403)	(90,081)	(338,327)	(274,735)
Underwriting income (loss)	\$ (24,113)	\$ 2,653	\$ 562	\$ (15,644)	\$ (26,713)	\$ (20,898)	\$ (13,215)
Underwriting Ratios							
Loss ratio	69.8 %	65.7 %	64.4 %	71.5 %	73.0 %	66.7 %	68.1 %
Acquisition expense ratio	15.1 %	15.4 %	15.0 %	15.3 %	15.7 %	15.1 %	16.0 %
Other operating expense ratio	19.1 %	18.5 %	20.5 %	16.0 %	16.1 %	19.3 %	16.7 %
Combined ratio	104.0 %	99.6 %	99.9 %	102.8 %	104.8 %	101.1 %	100.8 %
Catastrophic activity and prior year development:							
Current accident year catastrophic events, net of reinsurance and reinstatement premiums	4.3 %	0.4 %	0.0 %	6.0 %	5.8 %	1.6 %	2.5 %
Net (favorable) adverse development in prior year loss reserves, net of related adjustments	(0.6)%	(0.2)%	(0.3)%	(1.5)%	(1.2)%	(0.4)%	(0.8)%
Combined ratio excluding catastrophic activity and prior year development (1)	100.3 %	99.4 %	100.2 %	98.3 %	100.2 %	99.9 %	99.1 %
Net premiums written to gross premiums written	70.0 %	68.2 %	66.0 %	64.2 %	68.9 %	68.1 %	69.0 %

(1) See 'Comments on Regulation G' for further discussion.

Arch Capital Group Ltd. and Subsidiaries
Segment Information — Insurance Segment

(U.S. Dollars in thousands)

	Three Months Ended										Nine Months Ended			
	September 30, 2019		June 30, 2019		March 31, 2019		December 31, 2018		September 30, 2018		September 30, 2019		September 30, 2018	
Net premiums written														
Professional lines (1)	\$ 137,569	19.5 %	\$ 121,679	19.4%	\$ 129,234	20.8%	\$ 109,219	20.4%	\$ 113,100	19.6%	\$ 388,482	19.9%	\$ 341,187	20.3%
Programs	120,039	17.1 %	108,671	17.3%	101,172	16.3%	92,601	17.3%	103,928	18.0%	329,882	16.9%	300,662	17.9%
Property, energy, marine and aviation	97,966	13.9 %	103,819	16.5%	70,486	11.3%	44,017	8.2%	60,909	10.6%	272,271	13.9%	175,157	10.4%
Construction and national accounts	98,522	14.0 %	60,888	9.7%	95,355	15.3%	84,237	15.7%	71,888	12.5%	254,765	13.0%	236,700	14.1%
Travel, accident and health	75,192	10.7 %	76,537	12.2%	88,104	14.2%	67,205	12.6%	79,450	13.8%	239,833	12.3%	223,196	13.3%
Excess and surplus casualty (2)	62,843	8.9 %	58,466	9.3%	45,165	7.3%	41,674	7.8%	44,829	7.8%	166,474	8.5%	126,793	7.6%
Lenders products	31,005	4.4 %	22,373	3.6%	22,415	3.6%	25,825	4.8%	25,995	4.5%	75,793	3.9%	70,269	4.2%
Other (3)	80,704	11.5 %	75,397	12.0%	69,401	11.2%	70,190	13.1%	76,753	13.3%	225,502	11.5%	203,193	12.1%
Total	\$ 703,840	100. %	\$ 627,830	100.0%	\$ 621,332	100.0%	\$ 534,968	100.0%	\$ 576,852	100.0%	\$ 1,953,002	100.0%	\$ 1,677,157	100.0%
Underwriting location														
United States	\$ 532,808	75.7 %	\$ 471,664	75.1%	\$ 471,811	75.9%	\$ 422,372	79.0%	\$ 448,910	77.8%	\$ 1,476,283	75.6%	\$ 1,314,279	78.4%
Europe	145,512	20.7 %	129,869	20.7%	132,651	21.3%	92,658	17.3%	110,557	19.2%	408,032	20.9%	309,316	18.4%
Other	25,520	3.6 %	26,297	4.2%	16,870	2.7%	19,938	3.7%	17,385	3.0%	68,687	3.5%	53,562	3.2%
Total	\$ 703,840	100. %	\$ 627,830	100.0%	\$ 621,332	100.0%	\$ 534,968	100.0%	\$ 576,852	100.0%	\$ 1,953,002	100.0%	\$ 1,677,157	100.0%
Net premiums earned														
Professional lines (1)	\$ 135,343	22.4 %	\$ 115,667	19.5%	\$ 114,791	20.7%	\$ 114,910	20.5%	\$ 115,271	20.5%	\$ 365,801	20.9%	\$ 343,515	20.9%
Programs	104,432	17.3 %	102,687	17.3%	97,486	17.6%	100,333	17.9%	96,509	17.2%	304,605	17.4%	288,853	17.5%
Property, energy, marine and aviation	80,246	13.3 %	68,995	11.6%	59,638	10.8%	51,769	9.3%	53,857	9.6%	208,879	11.9%	153,300	9.3%
Construction and national accounts	81,472	13.5 %	76,795	13.0%	75,931	13.7%	83,063	14.8%	80,381	14.3%	234,198	13.4%	239,377	14.5%
Travel, accident and health	81,952	13.5 %	83,636	14.1%	71,575	12.9%	74,153	13.3%	81,405	14.5%	237,163	13.5%	222,994	13.5%
Excess and surplus casualty (2)	53,991	8.9 %	47,858	8.1%	42,369	7.7%	42,430	7.6%	43,401	7.7%	144,218	8.2%	129,994	7.9%
Lenders products (4)	(5,724)	(0.9)%	23,570	4.0%	23,232	4.2%	24,017	4.3%	24,254	4.3%	41,078	2.3%	70,231	4.3%
Other (3)	73,624	12.2 %	73,234	12.4%	68,483	12.4%	68,742	12.3%	65,980	11.8%	215,341	12.3%	197,980	12.0%
Total	\$ 605,336	100. %	\$ 592,442	100.0%	\$ 553,505	100.0%	\$ 559,417	100.0%	\$ 561,058	100.0%	\$ 1,751,283	100.0%	\$ 1,646,244	100.0%

- (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.
(4) Reflects a change in earning patterns on certain business in the 2019 third quarter.

Arch Capital Group Ltd. and Subsidiaries
Segment Information — Reinsurance Segment

(U.S. Dollars in thousands)

	Three Months Ended				Nine Months Ended		
	September 30,	June 30,	March 31,	December 31,	September 30,	September 30,	
	2019	2019	2019	2018	2018	2019	2018
Gross premiums written	\$ 662,572	\$ 545,547	\$ 682,855	\$ 409,316	\$ 435,396	\$ 1,890,974	\$ 1,503,206
Premiums ceded	(226,096)	(169,457)	(231,567)	(84,268)	(123,705)	(627,120)	(455,682)
Net premiums written	436,476	376,090	451,288	325,048	311,691	1,263,854	1,047,524
Change in unearned premiums	(72,621)	(8,906)	(104,923)	23,405	(18,418)	(186,450)	(134,761)
Net premiums earned	363,855	367,184	346,365	348,453	293,273	1,077,404	912,763
Other underwriting income (loss)	(1,208)	1,224	4,377	(3,172)	1,387	4,393	2,490
Losses and loss adjustment expenses	(270,379)	(240,958)	(239,810)	(291,838)	(183,413)	(751,147)	(555,044)
Acquisition expenses	(62,393)	(56,785)	(54,326)	(62,452)	(50,367)	(173,504)	(148,828)
Other operating expenses	(32,533)	(33,960)	(35,704)	(32,165)	(29,936)	(102,197)	(101,185)
Underwriting income (loss)	\$ (2,658)	\$ 36,705	\$ 20,902	\$ (41,174)	\$ 30,944	\$ 54,949	\$ 110,196
Underwriting Ratios							
Loss ratio	74.3 %	65.6 %	69.2%	83.8 %	62.5 %	69.7 %	60.8 %
Acquisition expense ratio	17.1 %	15.5 %	15.7%	17.9 %	17.2 %	16.1 %	16.3 %
Other operating expense ratio	8.9 %	9.2 %	10.3%	9.2 %	10.2 %	9.5 %	11.1 %
Combined ratio	100.3 %	90.3 %	95.2%	110.9 %	89.9 %	95.3 %	88.2 %
Catastrophic activity and prior year development:							
Current accident year catastrophic events, net of reinsurance and reinstatement premiums	11.5 %	1.2 %	2.3%	24.3 %	8.7 %	5.0 %	3.7 %
Net (favorable) adverse development in prior year loss reserves, net of related adjustments	(4.0)%	(3.1)%	0.5%	(9.6)%	(11.3)%	(2.3)%	(11.1)%
Combined ratio excluding catastrophic activity and prior year development (1)	92.8 %	92.2 %	92.4%	96.2 %	92.5 %	92.6 %	95.6 %
Net premiums written to gross premiums written	65.9 %	68.9 %	66.1%	79.4 %	71.6 %	66.8 %	69.7 %

(1) See 'Comments on Regulation G' for further discussion.

Arch Capital Group Ltd. and Subsidiaries
Segment Information — Reinsurance Segment

(U.S. Dollars in thousands)

	Three Months Ended										Nine Months Ended			
	September 30, 2019		June 30, 2019		March 31, 2019		December 31, 2018		September 30, 2018		September 30, 2019		September 30, 2018	
Net premiums written														
Casualty (1)	\$ 178,802	41.0%	\$ 78,025	20.7%	\$ 168,484	37.3%	\$ 103,101	31.7%	\$ 98,788	31.7%	\$ 425,311	33.7%	\$ 297,077	28.4%
Other Specialty (2)	94,072	21.6%	129,174	34.3%	140,477	31.1%	108,363	33.3%	105,535	33.9%	363,723	28.8%	399,608	38.1%
Property excluding property catastrophe	118,671	27.2%	96,050	25.5%	102,740	22.8%	64,025	19.7%	83,222	26.7%	317,461	25.1%	246,268	23.5%
Property catastrophe	23,597	5.4%	46,594	12.4%	3,383	0.7%	27,894	8.6%	9,053	2.9%	73,574	5.8%	51,730	4.9%
Marine and aviation	10,181	2.3%	15,619	4.2%	15,958	3.5%	11,929	3.7%	6,011	1.9%	41,758	3.3%	26,084	2.5%
Other (3)	11,153	2.6%	10,628	2.8%	20,246	4.5%	9,736	3.0%	9,082	2.9%	42,027	3.3%	26,757	2.6%
Total	\$ 436,476	100.0%	\$ 376,090	100.0%	\$ 451,288	100.0%	\$ 325,048	100.0%	\$ 311,691	100.0%	\$ 1,263,854	100.0%	\$ 1,047,524	100.0%
Underwriting location														
Bermuda	\$ 190,998	43.8%	\$ 159,147	42.3%	\$ 111,499	24.7%	\$ 146,013	44.9%	\$ 117,228	37.6%	\$ 461,644	36.5%	\$ 341,510	32.6%
United States	145,231	33.3%	109,296	29.1%	156,413	34.7%	94,661	29.1%	103,006	33.0%	410,940	32.5%	318,889	30.4%
Europe and other	100,247	23.0%	107,647	28.6%	183,376	40.6%	84,374	26.0%	91,457	29.3%	391,270	31.0%	387,125	37.0%
Total	\$ 436,476	100.0%	\$ 376,090	100.0%	\$ 451,288	100.0%	\$ 325,048	100.0%	\$ 311,691	100.0%	\$ 1,263,854	100.0%	\$ 1,047,524	100.0%
Net premiums earned														
Casualty (1)	\$ 116,242	31.9%	\$ 103,164	28.1%	\$ 91,624	26.5%	\$ 115,157	33.0%	\$ 77,496	26.4%	\$ 311,030	28.9%	\$ 231,877	25.4%
Other Specialty (2)	112,349	30.9%	136,573	37.2%	121,521	35.1%	112,892	32.4%	108,311	36.9%	370,443	34.4%	361,676	39.6%
Property excluding property catastrophe	90,358	24.8%	85,479	23.3%	83,792	24.2%	76,827	22.0%	71,358	24.3%	259,629	24.1%	210,961	23.1%
Property catastrophe	22,617	6.2%	18,537	5.0%	18,732	5.4%	22,956	6.6%	18,190	6.2%	59,886	5.6%	52,293	5.7%
Marine and aviation	11,798	3.2%	12,498	3.4%	11,059	3.2%	11,088	3.2%	8,672	3.0%	35,355	3.3%	28,150	3.1%
Other (3)	10,491	2.9%	10,933	3.0%	19,637	5.7%	9,533	2.7%	9,246	3.2%	41,061	3.8%	27,806	3.0%
Total	\$ 363,855	100.0%	\$ 367,184	100.0%	\$ 346,365	100.0%	\$ 348,453	100.0%	\$ 293,273	100.0%	\$ 1,077,404	100.0%	\$ 912,763	100.0%

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

Arch Capital Group Ltd. and Subsidiaries
Segment Information — Mortgage Segment

(U.S. Dollars in thousands)

	Three Months Ended					Nine Months Ended	
	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	September 30, 2019	September 30, 2018
Gross premiums written	\$ 375,092	\$ 364,465	\$ 356,050	\$ 357,981	\$ 350,559	\$ 1,095,607	\$ 1,002,727
Premiums ceded	(57,703)	(42,857)	(48,798)	(48,603)	(57,226)	(149,358)	(154,230)
Net premiums written	317,389	321,608	307,252	309,378	293,333	946,249	848,497
Change in unearned premiums	25,611	31,175	15,650	5,214	7,591	72,436	23,147
Net premiums earned	343,000	352,783	322,902	314,592	300,924	1,018,685	871,644
Other underwriting income (1)	3,955	4,056	3,856	2,569	3,733	11,867	10,464
Losses and loss adjustment expenses	(13,080)	(25,997)	(11,149)	(6,617)	(9,615)	(50,226)	(74,672)
Acquisition expenses	(34,396)	(32,654)	(31,672)	(30,930)	(33,361)	(98,722)	(87,665)
Other operating expenses	(37,003)	(39,819)	(39,875)	(33,810)	(31,122)	(116,697)	(108,622)
Underwriting income	\$ 262,476	\$ 258,369	\$ 244,062	\$ 245,804	\$ 230,559	\$ 764,907	\$ 611,149
Underwriting Ratios							
Loss ratio	3.8 %	7.4 %	3.5 %	2.1 %	3.2 %	4.9 %	8.6 %
Acquisition expense ratio	10.0 %	9.3 %	9.8 %	9.8 %	11.1 %	9.7 %	10.1 %
Other operating expense ratio	10.8 %	11.3 %	12.3 %	10.7 %	10.3 %	11.5 %	12.5 %
Combined ratio	24.6 %	28.0 %	25.6 %	22.6 %	24.6 %	26.1 %	31.2 %
Net (favorable) adverse development in prior year loss reserves, net of related adjustments	(9.6)%	(6.5)%	(11.3)%	(10.4)%	(12.5)%	(9.1)%	(8.5)%
Combined ratio excluding prior year development (2)	34.2 %	34.5 %	36.9 %	33.0 %	37.1 %	35.2 %	39.7 %
Net premiums written to gross premiums written	84.6 %	88.2 %	86.3 %	86.4 %	83.7 %	86.4 %	84.6 %
Net premiums written by underwriting location							
United States	\$ 260,202	\$ 258,774	\$ 255,380	\$ 256,472	\$ 240,959	\$ 774,356	\$ 691,851
Other	57,187	62,834	51,872	52,906	52,374	171,893	156,646
Total	\$ 317,389	\$ 321,608	\$ 307,252	\$ 309,378	\$ 293,333	\$ 946,249	\$ 848,497
United States %	82.0 %	80.5 %	83.1 %	82.9 %	82.1 %	81.8 %	81.5 %
Other %	18.0 %	19.5 %	16.9 %	17.1 %	17.9 %	18.2 %	18.5 %

(1) Primarily related to income earned on various risk-sharing products offered to government sponsored enterprises and mortgage lenders.

(2) See 'Comments on Regulation G' for further discussion.

Arch Capital Group Ltd. and Subsidiaries
Segment Information — Mortgage Segment

(U.S. Dollars in millions)	September 30, 2019		June 30, 2019		March 31, 2019		December 31, 2018		September 30, 2018	
Insurance In Force (IIF) (1)										
U.S. primary mortgage insurance	\$ 284,496	69.7 %	\$ 279,297	69.1 %	\$ 276,699	70.9 %	\$ 276,538	72.1 %	\$ 272,409	73.1 %
Mortgage reinsurance	25,440	6.2 %	26,286	6.5 %	26,487	6.8 %	25,975	6.8 %	26,500	7.1 %
Other (2)	98,054	24.0 %	98,335	24.3 %	87,190	22.3 %	81,147	21.2 %	73,903	19.8 %
Total	<u>\$ 407,990</u>	<u>100.0 %</u>	<u>\$ 403,918</u>	<u>100.0 %</u>	<u>\$ 390,376</u>	<u>100.0 %</u>	<u>\$ 383,660</u>	<u>100.0 %</u>	<u>\$ 372,812</u>	<u>100.0 %</u>
Risk In Force (RIF) (3)										
U.S. primary mortgage insurance	\$ 72,916	92.0 %	\$ 71,760	91.8 %	\$ 71,114	92.2 %	\$ 70,995	92.3 %	\$ 69,764	92.5 %
Mortgage reinsurance	2,086	2.6 %	2,182	2.8 %	2,204	2.9 %	2,217	2.9 %	2,264	3.0 %
Other (2)	4,216	5.3 %	4,260	5.4 %	3,772	4.9 %	3,728	4.8 %	3,425	4.5 %
Total	<u>\$ 79,218</u>	<u>100.0 %</u>	<u>\$ 78,202</u>	<u>100.0 %</u>	<u>\$ 77,090</u>	<u>100.0 %</u>	<u>\$ 76,940</u>	<u>100.0 %</u>	<u>\$ 75,453</u>	<u>100.0 %</u>
Supplemental disclosures for U.S. primary mortgage insurance:										
Total RIF by credit quality (FICO score):										
>=740	\$ 41,975	57.6 %	\$ 41,333	57.6 %	\$ 41,053	57.7 %	\$ 41,066	57.8 %	\$ 40,466	58.0 %
680-739	25,013	34.3 %	24,488	34.1 %	24,122	33.9 %	23,954	33.7 %	23,371	33.5 %
620-679	5,501	7.5 %	5,494	7.7 %	5,476	7.7 %	5,485	7.7 %	5,413	7.8 %
<620	427	0.6 %	445	0.6 %	463	0.7 %	490	0.7 %	514	0.7 %
Total	<u>\$ 72,916</u>	<u>100.0 %</u>	<u>\$ 71,760</u>	<u>100.0 %</u>	<u>\$ 71,114</u>	<u>100.0 %</u>	<u>\$ 70,995</u>	<u>100.0 %</u>	<u>\$ 69,764</u>	<u>100.0 %</u>
Weighted average FICO score	743		743		743		743		743	
Total RIF by Loan-To-Value (LTV):										
95.01% and above	\$ 8,948	12.3 %	\$ 8,535	11.9 %	\$ 8,175	11.5 %	\$ 7,918	11.2 %	\$ 7,506	10.8 %
90.01% to 95.00%	40,086	55.0 %	39,777	55.4 %	39,500	55.5 %	39,370	55.5 %	38,748	55.5 %
85.01% to 90.00%	20,708	28.4 %	20,419	28.5 %	20,418	28.7 %	20,643	29.1 %	20,464	29.3 %
85.00% and below	3,174	4.4 %	3,029	4.2 %	3,021	4.2 %	3,064	4.3 %	3,046	4.4 %
Total	<u>\$ 72,916</u>	<u>100.0 %</u>	<u>\$ 71,760</u>	<u>100.0 %</u>	<u>\$ 71,114</u>	<u>100.0 %</u>	<u>\$ 70,995</u>	<u>100.0 %</u>	<u>\$ 69,764</u>	<u>100.0 %</u>
Weighted average LTV	93.1%		93.1%		93.1%		93.0%		93.0%	
Total RIF by State:										
Texas	\$ 5,599	7.7 %	\$ 5,509	7.7 %	\$ 5,488	7.7 %	\$ 5,491	7.7 %	\$ 5,406	7.7 %
California	4,984	6.8 %	4,736	6.6 %	4,574	6.4 %	4,505	6.3 %	4,310	6.2 %
Florida	3,821	5.2 %	3,699	5.2 %	3,601	5.1 %	3,541	5.0 %	3,395	4.9 %
Virginia	2,907	4.0 %	2,916	4.1 %	2,915	4.1 %	2,931	4.1 %	2,914	4.2 %
Georgia	2,667	3.7 %	2,599	3.6 %	2,565	3.6 %	2,573	3.6 %	2,542	3.6 %
Illinois	2,602	3.6 %	2,536	3.5 %	2,492	3.5 %	2,482	3.5 %	2,442	3.5 %
Minnesota	2,480	3.4 %	2,434	3.4 %	2,404	3.4 %	2,400	3.4 %	2,365	3.4 %
North Carolina	2,469	3.4 %	2,462	3.4 %	2,477	3.5 %	2,505	3.5 %	2,500	3.6 %
Washington	2,466	3.4 %	2,421	3.4 %	2,408	3.4 %	2,408	3.4 %	2,370	3.4 %
Maryland	2,443	3.4 %	2,420	3.4 %	2,404	3.4 %	2,407	3.4 %	2,369	3.4 %
Others	40,478	55.5 %	40,028	55.8 %	39,786	55.9 %	39,752	56.0 %	39,151	56.1 %
Total	<u>\$ 72,916</u>	<u>100.0 %</u>	<u>\$ 71,760</u>	<u>100.0 %</u>	<u>\$ 71,114</u>	<u>100.0 %</u>	<u>\$ 70,995</u>	<u>100.0 %</u>	<u>\$ 69,764</u>	<u>100.0 %</u>
Weighted average coverage (end of period RIF divided by IIF)	25.6%		25.7%		25.7%		25.7%		25.6%	
U.S. mortgage insurance total RIF, net of reinsurance (4)	\$ 57,768		\$ 56,562		\$ 55,957		\$ 55,755		\$ 54,558	
Analysts' persistency (5)	78.6%		80.9%		81.3%		81.5%		82.0%	
Risk-to-capital ratio -- Arch MI U.S. (6)	12.9:1		11.4:1		12.2:1		13.0:1		11.4:1	
PMIER sufficiency ratio -- Arch MI U.S. (7)	154%		163%		146%		141%		151%	

- (1) The aggregate dollar amount of each insured mortgage loan's current principal balance.
(2) Includes GSE credit risk-sharing transactions and international insurance business.
(3) The aggregate dollar amount of each insured mortgage loan's current principal balance multiplied by the insurance coverage percentage specified in the policy for insurance policies issued and after contract limits and/or loss ratio caps for risk-sharing or reinsurance transactions.

- (4) Total RIF for the U.S. mortgage insurance operations (see note 3) after external reinsurance.
(5) Represents the % of IIF at the beginning of a 12-month period that remained in force at the end of the period.
(6) Represents total current (non-delinquent) RIF, net of reinsurance, divided by total statutory capital (estimate for September 30, 2019).
(7) Calculated as available assets divided by required assets as defined within PMIERS (estimate for September 30, 2019).

Arch Capital Group Ltd. and Subsidiaries
Segment Information — Mortgage Segment

(U.S. Dollars in millions, except policy/loan/claim count)

	Three Months Ended									
	September 30, 2019		June 30, 2019		March 31, 2019		December 31, 2018		September 30, 2018	
Supplemental disclosures for U.S. primary mortgage insurance:										
Total new insurance written (NIW) (1)	\$ 25,313		\$ 17,161		\$ 11,207		\$ 16,741		\$ 21,425	
Total NIW by credit quality (FICO score):										
>=740	\$ 15,204	60.1%	\$ 9,862	57.5%	\$ 6,350	56.7%	\$ 9,358	55.9%	\$ 12,013	56.1%
680-739	8,725	34.5%	6,139	35.8%	4,041	36.1%	6,080	36.3%	7,728	36.1%
620-679	1,384	5.5%	1,160	6.8%	816	7.3%	1,303	7.8%	1,684	7.9%
Total	\$ 25,313	100.0%	\$ 17,161	100.0%	\$ 11,207	100.0%	\$ 16,741	100.0%	\$ 21,425	100.0%
Total NIW by LTV:										
95.01% and above	\$ 3,182	12.6%	\$ 2,530	14.7%	\$ 1,808	16.1%	\$ 2,672	16.0%	\$ 3,231	15.1%
90.01% to 95.00%	10,409	41.1%	7,497	43.7%	4,975	44.4%	7,452	44.5%	9,689	45.2%
85.01% to 90.00%	7,762	30.7%	5,026	29.3%	3,149	28.1%	4,841	28.9%	6,264	29.2%
85.00% and below	3,960	15.6%	2,108	12.3%	1,275	11.4%	1,776	10.6%	2,241	10.5%
Total	\$ 25,313	100.0%	\$ 17,161	100.0%	\$ 11,207	100.0%	\$ 16,741	100.0%	\$ 21,425	100.0%
Total NIW monthly vs. single:										
Monthly	\$ 23,358	92.3%	\$ 15,935	92.9%	\$ 10,263	91.6%	\$ 15,299	91.4%	\$ 19,842	92.6%
Single	1,955	7.7%	1,226	7.1%	944	8.4%	1,442	8.6%	1,583	7.4%
Total	\$ 25,313	100.0%	\$ 17,161	100.0%	\$ 11,207	100.0%	\$ 16,741	100.0%	\$ 21,425	100.0%
Total NIW purchase vs. refinance:										
Purchase	\$ 19,068	75.3%	\$ 14,992	87.4%	\$ 10,289	91.8%	\$ 15,868	94.8%	\$ 20,397	95.2%
Refinance	6,245	24.7%	2,169	12.6%	918	8.2%	873	5.2%	1,028	4.8%
Total	\$ 25,313	100.0%	\$ 17,161	100.0%	\$ 11,207	100.0%	\$ 16,741	100.0%	\$ 21,425	100.0%
Ending number of policies in force (PIF) (3)	1,304,263		1,292,215		1,286,877		1,289,295		1,270,728	
Rollforward of insured loans in default:										
Beginning delinquent number of loans	18,761		19,827		20,665		20,361		21,037	
Plus: new notices	10,111		8,906		9,711		10,052		9,466	
Less: cures	(8,970)		(9,201)		(9,706)		(8,785)		(9,246)	
Less: paid claims	(659)		(771)		(843)		(963)		(896)	
Ending delinquent number of loans (3)	19,243		18,761		19,827		20,665		20,361	
Ending percentage of loans in default (3)	1.48%		1.45%		1.54%		1.60%		1.60%	
Losses:										
Number of claims paid	659		771		843		963		896	
Total paid claims (in thousands)	\$ 26,082		\$ 32,025		\$ 33,494		\$ 40,982		\$ 34,958	
Average per claim (in thousands)	\$ 39.6		\$ 41.5		\$ 39.7		\$ 42.6		\$ 39.0	
Severity (2)	95.6%		95.1%		98.9%		101.9%		102.9%	
Average reserve per default (in thousands)	\$ 14.7		\$ 16.1		\$ 16.6		\$ 17.4		\$ 18.1	

- (1) The original principal balance of all loans that received coverage during the period.
- (2) Represents total paid claims divided by RIF of loans for which claims were paid.
- (3) Includes first lien primary and pool policies.

Arch Capital Group Ltd. and Subsidiaries
Segment Information — Mortgage Segment

Supplemental disclosures for U.S. primary mortgage insurance:

(U.S. Dollars in millions)

Policy year:	September 30, 2019						December 31, 2018					
	Loss Reserves, Net (1)	Primary IIF (2)		Primary RIF (3)		Delinquency Rate	Loss Reserves, Net (1)	Primary IIF (2)		Primary RIF (3)		Delinquency Rate
	% of Total	Total	% of Total	Total	% of Total		% of Total	Total	% of Total	Total	% of Total	
2009 and prior	61.8%	\$ 17,943	6.3%	4,156	5.7%	8.48%	73.4%	\$ 21,210	7.7%	4,900	6.9%	8.90%
2010	0.5%	442	0.2%	117	0.2%	3.21%	0.5%	646	0.2%	175	0.2%	2.62%
2011	0.7%	1,919	0.7%	533	0.7%	1.46%	0.9%	2,530	0.9%	701	1.0%	1.57%
2012	1.3%	6,919	2.4%	1,929	2.6%	0.81%	1.5%	9,650	3.5%	2,664	3.8%	0.78%
2013	3.2%	13,552	4.8%	3,782	5.2%	0.94%	3.5%	16,823	6.1%	4,676	6.6%	0.89%
2014	2.5%	14,950	5.3%	4,111	5.6%	1.04%	2.6%	18,274	6.6%	4,947	7.0%	0.97%
2015	3.4%	27,984	9.8%	7,431	10.2%	0.79%	3.3%	33,781	12.2%	8,849	12.5%	0.69%
2016	7.1%	44,091	15.5%	11,445	15.7%	0.88%	7.0%	52,324	18.9%	13,407	18.9%	0.77%
2017	8.9%	47,430	16.7%	12,136	16.6%	0.82%	6.0%	54,287	19.6%	13,793	19.4%	0.55%
2018	9.5%	57,472	20.2%	14,511	19.9%	0.62%	1.1%	67,013	24.2%	16,883	23.8%	0.15%
2019	1.1%	51,794	18.2%	12,765	17.5%	0.09%						
Total	100.0%	\$ 284,496	100.0%	\$ 72,916	100.0%	1.48%	100.0%	\$ 276,538	100.0%	\$ 70,995	100.0%	1.60%

- (1) Total reserves for losses and loss adjustment expenses, net of recoverables, was \$309.9 million at September 30, 2019, compared to \$375.8 million at December 31, 2018.
- (2) The aggregate dollar amount of each insured mortgage loan's current principal balance.
- (3) The aggregate dollar amount of each insured mortgage loan's current principal balance multiplied by the insurance coverage percentage specified in the policy for insurance policies issued and after contract limits and/or loss ratio caps for risk-sharing transactions.

Arch Capital Group Ltd. and Subsidiaries
Segment Information - Consolidated Excluding the 'Other' Segment (Sub-Total (Core))

(U.S. Dollars in thousands)

	Three Months Ended				Nine Months Ended		
	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	September 30, 2018	
Gross premiums written	\$ 2,043,292	\$ 1,829,829	\$ 1,980,453	\$ 1,599,085	\$ 1,622,532	\$ 5,853,574	\$ 4,935,339
Premiums ceded	(585,587)	(504,301)	(600,581)	(429,691)	(440,656)	(1,690,469)	(1,362,161)
Net premiums written	1,457,705	1,325,528	1,379,872	1,169,394	1,181,876	4,163,105	3,573,178
Change in unearned premiums	(145,514)	(13,119)	(157,100)	53,068	(26,621)	(315,733)	(142,527)
Net premiums earned	1,312,191	1,312,409	1,222,772	1,222,462	1,155,255	3,847,372	3,430,651
Other underwriting income (loss)	2,747	5,280	8,233	(603)	5,120	16,260	12,954
Losses and loss adjustment expenses	(706,241)	(656,127)	(607,682)	(698,505)	(602,463)	(1,970,050)	(1,750,346)
Acquisition expenses	(188,048)	(180,533)	(168,822)	(178,990)	(171,983)	(537,403)	(500,587)
Other operating expenses	(184,944)	(183,302)	(188,975)	(155,378)	(151,139)	(557,221)	(484,542)
Underwriting income	\$ 235,705	\$ 297,727	\$ 265,526	\$ 188,986	\$ 234,790	\$ 798,958	\$ 708,130
Underwriting Ratios							
Loss ratio	53.8 %	50.0 %	49.7 %	57.1 %	52.1 %	51.2 %	51.0 %
Acquisition expense ratio	14.3 %	13.8 %	13.8 %	14.6 %	14.9 %	14.0 %	14.6 %
Other operating expense ratio	14.1 %	14.0 %	15.5 %	12.7 %	13.1 %	14.5 %	14.1 %
Combined ratio	82.2 %	77.8 %	79.0 %	84.4 %	80.1 %	79.7 %	79.7 %
Catastrophic activity and prior year development:							
Current accident year catastrophic events, net of reinsurance and reinstatement premiums	5.2 %	0.5 %	0.6 %	9.7 %	5.0 %	2.2 %	2.2 %
Net (favorable) adverse development in prior year loss reserves, net of related adjustments	(3.9)%	(2.7)%	(3.0)%	(6.1)%	(6.7)%	(3.2)%	(5.5)%
Combined ratio excluding catastrophic activity and prior year development (1)	80.9 %	80.0 %	81.4 %	80.8 %	81.8 %	80.7 %	83.0 %
Net premiums written to gross premiums written	71.3 %	72.4 %	69.7 %	73.1 %	72.8 %	71.1 %	72.4 %

(1) See 'Comments on Regulation G' for further discussion.

Arch Capital Group Ltd. and Subsidiaries
Segment Information — Selected Information on Losses and Loss Adjustment Expenses

(U.S. Dollars in thousands)

	Three Months Ended				Nine Months Ended		
	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	September 30, 2019	September 30, 2018
Components of losses and loss adjustment expenses incurred (1)							
Paid losses and loss adjustment expenses	\$ 508,364	\$ 494,368	\$ 430,724	\$ 579,106	\$ 503,245	\$ 1,433,456	\$ 1,402,851
Change in unpaid losses and loss adjustment expenses	197,877	161,759	176,958	119,399	99,218	536,594	347,495
Total losses and loss adjustment expenses	<u>\$ 706,241</u>	<u>\$ 656,127</u>	<u>\$ 607,682</u>	<u>\$ 698,505</u>	<u>\$ 602,463</u>	<u>\$ 1,970,050</u>	<u>\$ 1,750,346</u>
Estimated net (favorable) adverse development in prior year loss reserves, net of related adjustments (1)							
Net impact on underwriting results:							
Insurance	\$ (3,934)	\$ (1,469)	\$ (1,651)	\$ (8,303)	\$ (6,830)	\$ (7,054)	\$ (13,440)
Reinsurance	(14,716)	(11,251)	1,580	(33,479)	(33,162)	(24,387)	(101,202)
Mortgage	(33,031)	(22,797)	(36,622)	(32,667)	(37,631)	(92,450)	(73,922)
Total	<u>\$ (51,681)</u>	<u>\$ (35,517)</u>	<u>\$ (36,693)</u>	<u>\$ (74,449)</u>	<u>\$ (77,623)</u>	<u>\$ (123,891)</u>	<u>\$ (188,564)</u>
Impact on losses and loss adjustment expenses:							
Insurance	\$ (4,354)	\$ (2,607)	\$ (4,426)	\$ (10,278)	\$ (5,949)	\$ (11,387)	\$ (14,117)
Reinsurance	(15,309)	(12,697)	1,668	(34,596)	(34,315)	(26,338)	(103,878)
Mortgage	(33,031)	(22,803)	(36,622)	(32,667)	(38,638)	(92,456)	(74,948)
Total	<u>\$ (52,694)</u>	<u>\$ (38,107)</u>	<u>\$ (39,380)</u>	<u>\$ (77,541)</u>	<u>\$ (78,902)</u>	<u>\$ (130,181)</u>	<u>\$ (192,943)</u>
Impact on acquisition expenses:							
Insurance	\$ 420	\$ 1,138	\$ 2,775	\$ 1,975	\$ (881)	\$ 4,333	\$ 677
Reinsurance	593	1,446	(88)	1,117	1,153	1,951	2,676
Mortgage	—	6	—	—	1,007	6	1,026
Total	<u>\$ 1,013</u>	<u>\$ 2,590</u>	<u>\$ 2,687</u>	<u>\$ 3,092</u>	<u>\$ 1,279</u>	<u>\$ 6,290</u>	<u>\$ 4,379</u>
Impact on combined ratio:							
Insurance	(0.6)%	(0.2)%	(0.3)%	(1.5)%	(1.2)%	(0.4)%	(0.8)%
Reinsurance	(4.0)%	(3.1)%	0.5 %	(9.6)%	(11.3)%	(2.3)%	(11.1)%
Mortgage	(9.6)%	(6.5)%	(11.3)%	(10.4)%	(12.5)%	(9.1)%	(8.5)%
Total	(3.9)%	(2.7)%	(3.0)%	(6.1)%	(6.7)%	(3.2)%	(5.5)%
Impact on loss ratio:							
Insurance	(0.7)%	(0.4)%	(0.8)%	(1.8)%	(1.1)%	(0.7)%	(0.9)%
Reinsurance	(4.2)%	(3.5)%	0.5 %	(9.9)%	(11.7)%	(2.4)%	(11.4)%
Mortgage	(9.6)%	(6.5)%	(11.3)%	(10.4)%	(12.8)%	(9.1)%	(8.6)%
Total	(4.0)%	(2.9)%	(3.2)%	(6.3)%	(6.8)%	(3.4)%	(5.6)%
Impact on acquisition expense ratio:							
Insurance	0.1 %	0.2 %	0.5 %	0.3 %	(0.1)%	0.3 %	0.1 %
Reinsurance	0.2 %	0.4 %	0.0 %	0.3 %	0.4 %	0.1 %	0.3 %
Mortgage	0.0 %	0.0 %	0.0 %	0.0 %	0.3 %	0.0 %	0.1 %
Total	0.1 %	0.2 %	0.2 %	0.2 %	0.1 %	0.2 %	0.1 %
Estimated net losses incurred from current accident year catastrophic events (2)							
Insurance	\$ 26,085	\$ 2,565	\$ 54	\$ 33,320	\$ 32,691	\$ 28,704	\$ 41,278
Reinsurance	41,948	4,589	7,824	84,846	25,469	54,361	33,832
Total	<u>\$ 68,033</u>	<u>\$ 7,154</u>	<u>\$ 7,878</u>	<u>\$ 118,166</u>	<u>\$ 58,160</u>	<u>\$ 83,065</u>	<u>\$ 75,110</u>
Impact on combined ratio:							
Insurance	4.3 %	0.4 %	0.0 %	6.0 %	5.8 %	1.6 %	2.5 %
Reinsurance	11.5 %	1.2 %	2.3 %	24.3 %	8.7 %	5.0 %	3.7 %
Total	5.2 %	0.5 %	0.6 %	9.7 %	5.0 %	2.2 %	2.2 %

(1) Presented on a 'core' basis which excludes amounts related to the 'other' segment (*i.e.*, results of Watford). See 'Comments on Regulation G' for a further discussion of the presentation of 'core' results.

(2) Equals estimated losses from catastrophic events occurring in the current accident year, net of reinsurance and reinstatement premiums. Amounts shown for the insurance segment are for named catastrophic events only. Amounts shown for the reinsurance segment include (i) named events with over \$5 million of losses incurred by its Bermuda and Europe operations and (ii) all catastrophe losses incurred by its U.S. operations. Amounts not applicable for the mortgage segment.

Arch Capital Group Ltd. and Subsidiaries
Investment Information — Investable Asset Summary and Investment Portfolio Metrics

The following table summarizes the Company's investable assets and portfolio metrics (1):

(U.S. Dollars in thousands)	September 30, 2019		June 30, 2019		March 31, 2019		December 31, 2018		September 30, 2018	
Investable assets (1) (2):										
Fixed maturities available for sale, at fair value	\$ 15,831,411	73.4 %	\$ 15,184,279	73.1 %	\$ 14,627,478	72.9 %	\$ 14,305,659	73.1 %	\$ 14,026,253	71.6 %
Fixed maturities—fair value option (3)	345,588	1.6 %	348,298	1.7 %	366,470	1.8 %	322,743	1.6 %	353,321	1.8 %
Fixed maturities pledged under securities lending agreements, at fair value	409,795	1.9 %	427,217	2.1 %	388,732	1.9 %	253,500	1.3 %	286,691	1.5 %
Total fixed maturities	<u>16,586,794</u>	<u>76.9 %</u>	<u>15,959,794</u>	<u>76.8 %</u>	<u>15,382,680</u>	<u>76.7 %</u>	<u>14,881,902</u>	<u>76.1 %</u>	<u>14,666,265</u>	<u>74.9 %</u>
Equity securities, at fair value	506,998	2.4 %	606,240	2.9 %	430,885	2.1 %	306,693	1.6 %	397,537	2.0 %
Equity securities—fair value option (3)	41,436	0.2 %	47,367	0.2 %	48,587	0.2 %	47,255	0.2 %	62,816	0.3 %
Equity securities pledged under securities lending agreements, at fair value	10,620	0.0 %	13,293	0.1 %	15,530	0.1 %	14,895	0.1 %	12,718	0.1 %
Total equity securities	<u>559,054</u>	<u>2.6 %</u>	<u>666,900</u>	<u>3.2 %</u>	<u>495,002</u>	<u>2.5 %</u>	<u>368,843</u>	<u>1.9 %</u>	<u>473,071</u>	<u>2.4 %</u>
Other investments—fair value option (3)	1,369,554	6.4 %	1,327,134	6.4 %	1,313,816	6.6 %	1,261,525	6.4 %	1,233,280	6.3 %
Total other investments	<u>1,369,554</u>	<u>6.4 %</u>	<u>1,327,134</u>	<u>6.4 %</u>	<u>1,313,816</u>	<u>6.6 %</u>	<u>1,261,525</u>	<u>6.4 %</u>	<u>1,233,280</u>	<u>6.3 %</u>
Investments accounted for using the equity method (4)	1,575,832	7.3 %	1,581,972	7.6 %	1,563,779	7.8 %	1,493,791	7.6 %	1,524,242	7.8 %
Short-term investments available for sale, at fair value	751,989	3.5 %	821,961	4.0 %	706,214	3.5 %	955,880	4.9 %	961,799	4.9 %
Short-term investments—fair value option (3)	33,369	0.2 %	25,289	0.1 %	25,429	0.1 %	40,046	0.2 %	24,309	0.1 %
Total short-term investments	<u>785,358</u>	<u>3.6 %</u>	<u>847,250</u>	<u>4.1 %</u>	<u>731,643</u>	<u>3.6 %</u>	<u>995,926</u>	<u>5.1 %</u>	<u>986,108</u>	<u>5.0 %</u>
Cash	799,709	3.7 %	536,339	2.6 %	576,799	2.9 %	583,027	3.0 %	586,353	3.0 %
Securities transactions entered into but not settled at the balance sheet date	(110,213)	(0.5)%	(142,726)	(0.7)%	(8,339)	0.0%	(18,153)	(0.1)%	122,863	0.6%
Total investable assets held by the Company	<u>\$ 21,566,088</u>	<u>100.0 %</u>	<u>\$ 20,776,663</u>	<u>100.0 %</u>	<u>\$ 20,055,380</u>	<u>100.0 %</u>	<u>\$ 19,566,861</u>	<u>100.0 %</u>	<u>\$ 19,592,182</u>	<u>100.0 %</u>
Average effective duration (in years)	3.64		3.52		3.47		3.38		2.94	
Average S&P/Moody's credit ratings (5)	AA/Aa2		AA/Aa2		AA/Aa2		AA/Aa2		AA/Aa2	
Embedded book yield (before investment expenses)	2.70%		2.87%		2.95%		2.89%		2.78%	

(1) Presented on a 'core' basis which excludes amounts related to the 'other' segment (*i.e.*, results of Watford). See 'Comments on Regulation G' for a further discussion of the presentation of 'core' results. Such amounts are summarized as follows:

Investable assets in 'other' segment:					
Cash	\$ 80,390	\$ 68,977	\$ 56,301	\$ 63,529	\$ 64,684
Investments accounted for using the fair value option	2,048,296	1,972,947	2,215,321	2,312,002	2,424,009
Fixed maturities available for sale, at fair value	639,112	697,453	549,834	393,351	305,388
Equity securities, at fair value	43,487	64,703	65,010	32,206	46,581
Securities sold but not yet purchased	(65,736)	(48,823)	(28,737)	(7,790)	(9,065)
Securities transactions entered into but not settled at the balance sheet date	(15,302)	13,209	(33,011)	(35,635)	(99,537)
Total investable assets included in 'other' segment	<u>\$ 2,730,247</u>	<u>\$ 2,768,466</u>	<u>\$ 2,824,718</u>	<u>\$ 2,757,663</u>	<u>\$ 2,732,060</u>

(2) This table excludes the collateral received and reinvested and includes the securities pledged under securities lending agreements, at fair value.

(3) Represents investments which are carried at fair value under the fair value option and reflected as "investments accounted for using the fair value option" on the balance sheet.

(4) Changes in the carrying value of investment funds accounted for using the equity method are recorded as "equity in net income (loss) of investment funds accounted for using the equity method" rather than as an unrealized gain or loss component of accumulated other comprehensive income.

(5) Average credit ratings on the Company's investment portfolio on securities with ratings assigned by Standard & Poor's ("S&P") and Moody's Investors Service ("Moody's").

Arch Capital Group Ltd. and Subsidiaries
Investment Information — Composition of Net Investment Income, Yield and Total Return

The following table summarizes the Company's net investment income, yield and total return (1):

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

	Three Months Ended					Nine Months Ended	
	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	September 30, 2019	September 30, 2018
Composition of net investment income (1):							
Fixed maturities	\$ 109,955	\$ 111,335	\$ 110,651	\$ 108,791	\$ 103,252	\$ 331,941	\$ 294,658
Equity securities (dividends)	3,581	3,494	2,246	2,242	3,426	9,321	10,408
Short-term investments	3,432	3,448	4,298	5,211	4,417	11,178	12,591
Other (2)	24,170	20,115	22,944	14,445	18,030	67,229	56,501
Gross investment income	141,138	138,392	140,139	130,689	129,125	419,669	374,158
Investment expenses	(14,262)	(15,354)	(18,890)	(15,063)	(14,797)	(48,506)	(51,826)
Net investment income	\$ 126,876	\$ 123,038	\$ 121,249	\$ 115,626	\$ 114,328	\$ 371,163	\$ 322,332
Per share	\$ 0.31	\$ 0.30	\$ 0.30	\$ 0.28	\$ 0.28	\$ 0.90	\$ 0.78
Investment income yield, at amortized cost (1) (3):							
Pre-tax	2.58%	2.62%	2.67%	2.49%	2.45%	2.62%	2.31 %
After-tax	2.31%	2.37%	2.41%	2.21%	2.22%	2.35%	2.10 %
Total return on investments (1) (4)	1.00%	2.37%	2.70%	0.51%	0.31%	6.20%	(0.19)%

(1) Presented on a 'core' basis which excludes amounts related to the 'other' segment (*i.e.*, results of Watford). See 'Comments on Regulation G' for a further discussion of the presentation of 'core' results.

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

(3) Presented on an annualized basis and excluding the impact of investments for which returns are not included within investment income, such as investments accounted for using the equity method and certain equities.

(4) Total return on investments includes net 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 or losses and is calculated on a pre-tax basis and before investment expenses. See 'Comments on Regulation G' for a further discussion of the presentation of total return on investments.

Arch Capital Group Ltd. and Subsidiaries
Investment Information — Composition of Fixed Maturities

The following table summarizes the Company's fixed maturities and fixed maturities pledged under securities lending agreements (1):

(U.S. Dollars in thousands)

	Fair Value	Gross Unrealized Gains	Gross Unrealized Losses	Net Unrealized Gains (Losses)	Amortized Cost	Fair Value / Amortized Cost	Fair Value % of Total
At September 30, 2019							
Corporates	\$ 6,494,654	\$ 197,123	\$ (18,396)	\$ 178,727	\$ 6,315,927	102.8%	39.2%
U.S. government and government agencies	4,830,839	63,953	(6,643)	57,310	4,773,529	101.2%	29.1%
Municipal bonds	652,296	27,053	(379)	26,674	625,622	104.3%	3.9%
Non-U.S. government securities	1,800,032	44,175	(46,387)	(2,212)	1,802,244	99.9%	10.9%
Asset-backed securities	1,526,440	29,471	(4,377)	25,094	1,501,346	101.7%	9.2%
Commercial mortgage-backed securities	754,306	27,523	(158)	27,365	726,941	103.8%	4.5%
Residential mortgage-backed securities	528,227	11,141	(891)	10,250	517,977	102.0%	3.2%
Total	\$ 16,586,794	\$ 400,439	\$ (77,231)	\$ 323,208	\$ 16,263,586	102.0%	100.0%
At December 31, 2018							
Corporates	\$ 5,735,526	\$ 14,457	\$ (104,223)	\$ (89,766)	\$ 5,825,292	98.5%	38.5%
U.S. government and government agencies	3,601,269	26,517	(8,347)	18,170	3,583,099	100.5%	24.2%
Municipal bonds	1,012,308	5,366	(11,891)	(6,525)	1,018,833	99.4%	6.8%
Non-U.S. government securities	1,713,891	13,807	(48,089)	(34,282)	1,748,173	98.0%	11.5%
Asset-backed securities	1,553,703	7,988	(13,447)	(5,459)	1,559,162	99.6%	10.4%
Commercial mortgage-backed securities	729,442	2,650	(10,751)	(8,101)	737,543	98.9%	4.9%
Residential mortgage-backed securities	535,763	3,974	(3,134)	840	534,923	100.2%	3.6%
Total	\$ 14,881,902	\$ 74,759	\$ (199,882)	\$ (125,123)	\$ 15,007,025	99.2%	100.0%

(1) Presented on a 'core' basis which excludes amounts related to the 'other' segment (*i.e.*, results of Watford). See 'Comments on Regulation G' for a further discussion of the presentation of 'core' results.

Arch Capital Group Ltd. and Subsidiaries
Investment Information — Credit Quality Distribution and Maturity Profile

The following table summarizes the credit quality distribution and maturity profile of the Company's fixed maturities and fixed maturities pledged under securities lending agreements (1):

(U.S. Dollars in thousands)	September 30, 2019		June 30, 2019		March 31, 2019		December 31, 2018		September 30, 2018	
Credit quality distribution of total fixed maturities (2) (3):										
U.S. government and government agencies (4)	\$ 5,403,271	32.6 %	\$ 5,030,769	31.5 %	\$ 4,895,315	31.8 %	\$ 4,194,676	28.2 %	\$ 3,672,429	25.0 %
AAA	3,240,708	19.5 %	3,325,260	20.8 %	3,096,530	20.1 %	3,551,039	23.9 %	3,691,522	25.2 %
AA	1,879,728	11.3 %	1,831,265	11.5 %	1,886,690	12.3 %	2,129,336	14.3 %	2,047,332	14.0 %
A	3,648,581	22.0 %	3,439,690	21.6 %	3,213,166	20.9 %	3,069,656	20.6 %	3,163,536	21.6 %
BBB	1,576,052	9.5 %	1,465,219	9.2 %	1,437,907	9.3 %	1,251,205	8.4 %	1,317,999	9.0 %
BB	362,117	2.2 %	361,389	2.3 %	363,887	2.4 %	275,201	1.8 %	288,178	2.0 %
B	210,824	1.3 %	226,885	1.4 %	231,544	1.5 %	183,614	1.2 %	219,667	1.5 %
Lower than B	61,205	0.4 %	60,858	0.4 %	60,577	0.4 %	61,271	0.4 %	61,001	0.4 %
Not rated	204,308	1.2 %	218,459	1.4 %	197,064	1.3 %	165,904	1.1 %	204,601	1.4 %
Total fixed maturities, at fair value	<u>\$ 16,586,794</u>	<u>100.0 %</u>	<u>\$ 15,959,794</u>	<u>100.0 %</u>	<u>\$ 15,382,680</u>	<u>100.0 %</u>	<u>\$ 14,881,902</u>	<u>100.0 %</u>	<u>\$ 14,666,265</u>	<u>100.0 %</u>
Maturity profile of total fixed maturities (2):										
Due in one year or less	\$ 571,738	3.4 %	\$ 457,207	2.9 %	\$ 465,467	3.0 %	\$ 328,296	2.2 %	\$ 374,027	2.6 %
Due after one year through five years	9,924,224	59.8 %	9,559,981	59.9 %	9,261,391	60.2 %	8,553,446	57.5 %	8,287,813	56.5 %
Due after five years through ten years	3,052,774	18.4 %	2,992,411	18.7 %	2,932,045	19.1 %	2,937,729	19.7 %	2,929,793	20.0 %
Due after 10 years	229,085	1.4 %	245,868	1.5 %	202,377	1.3 %	243,523	1.6 %	307,655	2.1 %
	<u>13,777,821</u>	<u>83.1 %</u>	<u>13,255,467</u>	<u>83.1 %</u>	<u>12,861,280</u>	<u>83.6 %</u>	<u>12,062,994</u>	<u>81.1 %</u>	<u>11,899,288</u>	<u>81.1 %</u>
Mortgage-backed securities	528,227	3.2 %	513,760	3.2 %	492,255	3.2 %	535,763	3.6 %	477,547	3.3 %
Commercial mortgage-backed securities	754,306	4.5 %	686,707	4.3 %	610,754	4.0 %	729,442	4.9 %	682,516	4.7 %
Asset-backed securities	1,526,440	9.2 %	1,503,860	9.4 %	1,418,391	9.2 %	1,553,703	10.4 %	1,606,914	11.0 %
Total fixed maturities, at fair value	<u>\$ 16,586,794</u>	<u>100.0 %</u>	<u>\$ 15,959,794</u>	<u>100.0 %</u>	<u>\$ 15,382,680</u>	<u>100.0 %</u>	<u>\$ 14,881,902</u>	<u>100.0 %</u>	<u>\$ 14,666,265</u>	<u>100.0 %</u>

- (1) Presented on a 'core' basis which excludes amounts related to the 'other' segment (*i.e.*, results of Watford). See 'Comments on Regulation G' for a further discussion of the presentation of 'core' results.
- (2) This table excludes the collateral received and reinvested and includes the fixed maturities pledged under securities lending agreements, at fair value.
- (3) For individual fixed maturities, S&P ratings are used. In the absence of an S&P rating, ratings from Moody's are used, followed by ratings from Fitch Ratings.
- (4) Includes U.S. government-sponsored agency mortgage backed securities and agency commercial mortgage backed securities.

Arch Capital Group Ltd. and Subsidiaries
Investment Information — Analysis of Corporate Exposures

The following table summarizes the Company's corporate bonds by sector (1):

(U.S. Dollars in thousands)	September 30, 2019		June 30, 2019		March 31, 2019		December 31, 2018		September 30, 2018	
Sector:										
Industrials	\$ 3,588,041	55.2 %	\$ 3,311,161	52.7 %	\$ 3,212,269	53.1 %	\$ 3,125,524	54.5 %	\$ 3,137,412	53.6 %
Financials	2,612,883	40.2 %	2,671,207	42.5 %	2,543,207	42.0 %	2,269,651	39.6 %	2,312,600	39.5 %
Utilities	237,042	3.6 %	245,068	3.9 %	223,399	3.7 %	228,676	4.0 %	274,062	4.7 %
Covered bonds	2,543	0.0 %	2,461	0.0 %	7,713	0.1 %	21,301	0.4 %	24,662	0.4 %
All other (2)	54,145	0.8 %	52,000	0.8 %	67,526	1.1 %	90,374	1.6 %	104,376	1.8 %
Total fixed maturities, at fair value	<u>\$ 6,494,654</u>	<u>100.0 %</u>	<u>\$ 6,281,897</u>	<u>100.0 %</u>	<u>\$ 6,054,114</u>	<u>100.0 %</u>	<u>\$ 5,735,526</u>	<u>100.0 %</u>	<u>\$ 5,853,112</u>	<u>100.0 %</u>
Credit quality distribution (3):										
AAA	\$ 95,340	1.5 %	\$ 91,266	1.5 %	\$ 135,630	2.2 %	\$ 166,052	2.9 %	\$ 194,408	3.3 %
AA	1,021,056	15.7 %	1,053,860	16.8 %	1,083,024	17.9 %	1,248,479	21.8 %	1,197,710	20.5 %
A	3,240,957	49.9 %	3,089,233	49.2 %	2,874,706	47.5 %	2,685,973	46.8 %	2,696,128	46.1 %
BBB	1,450,372	22.3 %	1,344,247	21.4 %	1,286,351	21.2 %	1,101,579	19.2 %	1,163,210	19.9 %
BB	339,952	5.2 %	334,068	5.3 %	336,354	5.6 %	253,253	4.4 %	257,785	4.4 %
B	201,352	3.1 %	217,324	3.5 %	217,043	3.6 %	167,205	2.9 %	200,116	3.4 %
Lower than B	26,969	0.4 %	22,758	0.4 %	25,901	0.4 %	26,645	0.5 %	22,578	0.4 %
Not rated	118,656	1.8 %	129,141	2.1 %	95,105	1.6 %	86,340	1.5 %	121,177	2.1 %
Total fixed maturities, at fair value	<u>\$ 6,494,654</u>	<u>100.0 %</u>	<u>\$ 6,281,897</u>	<u>100.0 %</u>	<u>\$ 6,054,114</u>	<u>100.0 %</u>	<u>\$ 5,735,526</u>	<u>100.0 %</u>	<u>\$ 5,853,112</u>	<u>100.0 %</u>

- (1) Presented on a 'core' basis which excludes amounts related to the 'other' segment (*i.e.*, results of Watford). See 'Comments on Regulation G' for a further discussion of the presentation of 'core' results.
- (2) Includes sovereign securities, supranational securities and other.
- (3) For individual fixed maturities, S&P ratings are used. In the absence of an S&P rating, ratings from Moody's are used, followed by ratings from Fitch Ratings.

The following table summarizes the Company's top ten exposures to fixed income corporate issuers by fair value at September 30, 2019 (1):

(U.S. Dollars in thousands)	Fair Value	% of Asset Class	% of Investable Assets	Credit Quality (2)
Issuer:				
Bank of America Corporation	\$ 241,428	3.7%	1.1%	A-/A2
Apple Inc.	213,331	3.3%	1.0%	AA+/Aa1
JPMorgan Chase & Co.	209,254	3.2%	1.0%	A-/A2
Wells Fargo & Company	201,534	3.1%	0.9%	A-/A1
Citigroup Inc.	184,850	2.8%	0.9%	A/A1
Morgan Stanley	141,891	2.2%	0.7%	BBB+/A3
Nestlé S.A.	113,597	1.7%	0.5%	AA-/Aa2
BP p.l.c.	110,616	1.7%	0.5%	A-/A1
The Goldman Sachs Group, Inc.	109,147	1.7%	0.5%	BBB+/A3
Deere & Company	105,217	1.6%	0.5%	A/A2
Total	<u>\$ 1,630,865</u>	<u>25.1%</u>	<u>7.6%</u>	

- (1) Presented on a 'core' basis which excludes amounts related to the 'other' segment (*i.e.*, results of Watford). See 'Comments on Regulation G' for a further discussion of the presentation of 'core' results.
- (2) Average credit ratings assigned by S&P and Moody's, respectively.

Arch Capital Group Ltd. and Subsidiaries
Investment Information — Structured Securities

The following table provides the composition of the Company's structured securities at September 30, 2019 (1):

(U.S. Dollars in thousands)

	<u>Agencies</u>	<u>AAA</u>	<u>AA</u>	<u>A</u>	<u>BBB</u>	<u>Non- Investment Grade</u>	<u>Total</u>
Residential mortgage-backed securities	\$ 478,427	\$ 11,260	\$ 1,572	\$ 1,449	\$ 1,156	\$ 34,363	\$ 528,227
Commercial mortgage-backed securities	94,004	603,706	4,863	9,264	18,551	23,918	754,306
Asset-backed securities	—	1,122,680	91,747	206,993	36,957	68,063	1,526,440
Total	<u>\$ 572,431</u>	<u>\$ 1,737,646</u>	<u>\$ 98,182</u>	<u>\$ 217,706</u>	<u>\$ 56,664</u>	<u>\$ 126,344</u>	<u>\$ 2,808,973</u>

(1) Presented on a 'core' basis which excludes amounts related to the 'other' segment (*i.e.*, results of Watford). See 'Comments on Regulation G' for a further discussion of the presentation of 'core' results.

Arch Capital Group Ltd. and Subsidiaries Comments on Regulation G

Throughout this financial supplement, the Company presents its operations in the way it believes will be the most meaningful and useful to investors, analysts, rating agencies and others who use the Company's financial information in evaluating the performance of the Company. This presentation includes the use of after-tax operating income available to Arch common shareholders, which is defined as net income available to Arch common shareholders, excluding net realized gains or losses, net impairment losses recognized in earnings, equity in net income or loss of investment funds accounted for using the equity method, net foreign exchange gains or losses, transaction costs and other and loss on redemption of preferred shares, net of income taxes, and the use of annualized operating return on average common equity. The presentation of after-tax operating income available to Arch common shareholders and annualized operating return on average common equity are non-GAAP financial measures as defined in Regulation G. The reconciliation of such measures to net income available to Arch common shareholders and annualized return on average common equity (the most directly comparable GAAP financial measures) in accordance with Regulation G is included on the following page.

The Company believes that net realized gains or losses, net impairment losses recognized in earnings, equity in net income or loss of investment funds accounted for using the equity method, net foreign exchange gains or losses, Transaction costs and other and loss on redemption of preferred shares in any particular period are not indicative of the performance of, or trends in, the Company's business performance. 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 the Company's 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 the Company's 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 the Company's investments represent other-than-temporary declines in expected recovery values on securities without actual realization. The use of the equity method on certain of the Company's 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 the Company's proportionate share of the net income or loss of the funds (which include changes in the fair value of the underlying securities in the funds). This method of accounting is different from the way the Company accounts for its 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. Transaction costs and other include advisory, financing, legal, severance, incentive compensation and other transaction costs related to acquisitions and Watford's non-recurring listing expenses. The Company believes that transaction costs and other, due to their non-recurring nature, are not indicative of the performance of, or trends in, the Company's business performance. The loss on redemption of preferred shares related to the redemption of the Company's Series C preferred shares in January 2018 and had no impact on shareholders' equity or cash flows. Due to these reasons, the Company excludes net realized gains or losses, net impairment losses recognized in earnings, equity in net income or loss of investment funds accounted for using the equity method, net foreign exchange gains or losses, transaction costs and other and loss on redemption of preferred shares from the calculation of after-tax operating income or loss available to Arch common shareholders.

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

In addition, the Company's presentation includes the use of information prepared on a 'core' basis, which excludes amounts related to the 'other' segment (i.e., results of Watford). Information provided on a 'core' basis are non-GAAP financial measures as defined in Regulation G. Pursuant to generally accepted accounting principles, Watford is considered a variable interest entity and the Company concluded that it is the primary beneficiary of Watford. As such, the Company consolidates the results of Watford in its consolidated financial statements, although it only owns approximately 11% of Watford's outstanding common equity. Watford has its own management and board of directors that is responsible for its own results and profitability. In addition, the Company does not guarantee or provide credit support for Watford. Because Watford is an independent company, the assets of Watford can be used only to settle obligations of Watford and Watford is solely responsible for its own liabilities and commitments. The Company's financial exposure to Watford is limited to its investment in Watford's senior notes, common and preferred shares and counterparty credit risk (mitigated by collateral) arising from the reinsurance transactions. The Company believes that presenting information on a 'core' basis enables investors and other users of the Company's financial information to analyze the Company's performance in a manner similar to how the Company's management analyzes performance. See 'Segment Information' for a further discussion of segment results and a reconciliation of core and consolidated results.

The Company's segment information includes the presentation of consolidated underwriting income or loss and a subtotal of underwriting income or loss on a 'core' basis. Such measures represent the pre-tax profitability of the Company's underwriting operations and include net premiums earned plus other underwriting income, less losses and loss adjustment expenses, acquisition expenses and other operating expenses. Other operating expenses include those operating expenses that are incremental and/or directly attributable to the Company's individual underwriting operations. Underwriting income or loss does not incorporate items included in the Company's corporate (non-underwriting) segment. While these measures are presented in the Segment Information footnote to the Company's Consolidated Financial Statements, they are considered non-GAAP financial measures when presented elsewhere on a consolidated basis. The reconciliations of underwriting income or loss to income before income taxes (the most directly comparable GAAP financial measure) on a consolidated basis and a 'core' basis, in accordance with Regulation G, is shown on pages 10 to 13.

The Company's segment information includes the use of a combined ratio excluding catastrophic activity (if applicable for the segment) and prior year development. These ratios are non-GAAP financial measures as defined in Regulation G. The reconciliation of such measures to the combined ratio (the most directly comparable GAAP financial measure) in accordance with Regulation G are shown on the individual segment pages. The Company's management utilizes the adjusted combined ratio excluding current accident year catastrophic events and favorable or adverse development in prior year loss reserves in its analysis of the core underwriting performance of each of its underwriting segments.

Total return on investments includes investment income, equity in net income or loss of investment funds accounted for using the equity method, net realized gains and losses and the change in unrealized gains and losses generated by Arch's investment portfolio. Total return is calculated on a pre-tax basis and before investment expenses, excludes amounts reflected in the 'other' segment, and reflects the effect of financial market conditions along with foreign currency fluctuations. Management uses total return on investments as a key measure of the return generated to Arch common shareholders on the capital held in its business, and compares the return generated by the Company's investment portfolio against benchmark returns which it measures portfolio returns against during the periods presented.

Arch Capital Group Ltd. and Subsidiaries
Operating Income Reconciliation and Annualized Operating Return on Average Common Equity

The following table summarizes the Company's consolidated financial data, including a reconciliation of net income (loss) available to Arch common shareholders to after-tax operating income (loss) available to Arch common shareholders and related diluted per share results. Each line item reflects the impact of the Company's approximate 11% ownership of Watford's outstanding common equity:

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

	Three Months Ended				Nine Months Ended		
	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	September 30, 2019	September 30, 2018
Net income available to Arch common shareholders	\$ 382,050	\$ 458,551	\$ 438,125	\$ 126,091	\$ 217,006	\$ 1,278,726	\$ 587,525
Net realized (gains) losses	(79,122)	(124,637)	(115,644)	77,037	47,528	(319,403)	220,718
Net impairment losses recognized in earnings	1,163	49	1,309	1,705	492	2,521	1,124
Equity in net (income) loss of investment funds accounted for using the equity method	(17,130)	(32,536)	(46,867)	6,882	(15,982)	(96,533)	(52,523)
Net foreign exchange (gains) losses	(30,160)	6,054	(4,994)	(20,869)	(7,539)	(29,100)	(39,021)
Transaction costs and other	1,995	2,178	1,190	3,548	1,091	5,363	8,829
Loss on redemption of preferred shares	—	—	—	—	—	—	2,710
Income tax expense (benefit) (1)	2,156	7,774	2,778	(5,223)	(316)	12,708	(9,343)
After-tax operating income available to Arch common shareholders	\$ 260,952	\$ 317,433	\$ 275,897	\$ 189,171	\$ 242,280	\$ 854,282	\$ 720,019
Diluted per common share results:							
Net income available to Arch common shareholders	\$ 0.92	\$ 1.12	\$ 1.07	\$ 0.31	\$ 0.53	\$ 3.11	\$ 1.42
Net realized (gains) losses	(0.19)	(0.31)	(0.29)	0.18	0.12	(0.78)	0.53
Net impairment losses recognized in earnings	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Equity in net (income) loss of investment funds accounted for using the equity method	(0.04)	(0.08)	(0.11)	0.02	(0.04)	(0.23)	(0.13)
Net foreign exchange (gains) losses	(0.07)	0.01	(0.01)	(0.05)	(0.02)	(0.07)	(0.09)
Transaction costs and other	0.00	0.01	0.00	0.01	0.00	0.01	0.02
Loss on redemption of preferred shares	—	—	—	—	—	—	0.01
Income tax expense (benefit) (1)	0.01	0.02	0.01	(0.01)	0.00	0.03	(0.02)
After-tax operating income available to Arch common shareholders	\$ 0.63	\$ 0.77	\$ 0.67	\$ 0.46	\$ 0.59	\$ 2.08	\$ 1.74
Weighted average common shares and common share equivalents outstanding - diluted	413,180,201	410,899,483	408,971,029	410,112,097	411,721,214	410,807,402	413,993,192
Beginning common shareholders' equity	\$ 9,977,352	\$ 9,334,596	\$ 8,659,827	\$ 8,575,148	\$ 8,383,755	\$ 8,659,827	\$ 8,324,047
Ending common shareholders' equity	10,378,096	9,977,352	9,334,596	8,659,827	8,575,148	10,378,096	8,575,148
Average common shareholders' equity	\$ 10,177,724	\$ 9,655,974	\$ 8,997,212	\$ 8,617,488	\$ 8,479,452	\$ 9,518,962	\$ 8,449,598
Annualized return on average common equity	15.0%	19.0%	19.5%	5.9%	10.2%	17.9%	9.3%
Annualized operating return on average common equity	10.3%	13.1%	12.3%	8.8%	11.4%	12.0%	11.4%

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

Arch Capital Group Ltd. and Subsidiaries
Operating Income and Effective Tax Rate Calculations

The following table provides a reconciliation of income (loss) before income taxes to after-tax operating income (loss) available to Arch common shareholders and an analysis of the effective tax rate on pre-tax operating income (loss) available to Arch common shareholders:

(U.S. Dollars in thousands)

	Three Months Ended					Nine Months Ended	
	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	September 30, 2019	September 30, 2018
Arch Operating Income Components (1):							
Income before income taxes	\$ 430,554	\$ 511,883	\$ 489,163	\$ 182,007	\$ 258,686	\$ 1,431,600	\$ 695,897
Net realized (gains) losses	(81,177)	(125,112)	(112,433)	66,015	47,010	(318,722)	218,414
Net impairment losses recognized in earnings	1,163	49	1,309	1,705	492	2,521	1,124
Equity in net (income) loss of investment funds accounted for using the equity method	(17,130)	(32,536)	(46,867)	6,882	(15,982)	(96,533)	(52,523)
Net foreign exchange (gains) losses	(29,794)	6,190	(5,175)	(20,409)	(7,130)	(28,779)	(38,302)
Transaction costs and other	1,995	2,178	1,190	2,557	1,091	5,363	8,829
Pre-tax operating income	305,611	362,652	327,187	238,757	284,167	995,450	833,439
Arch share of 'other' segment operating income (loss) (2)	1,704	1,863	2,222	1,053	2,187	5,789	6,080
Pre-tax operating income available to Arch (b)	307,315	364,515	329,409	239,810	286,354	1,001,239	839,519
Income tax expense (a)	(35,960)	(36,679)	(43,109)	(40,236)	(33,672)	(115,748)	(88,258)
After-tax operating income available to Arch	271,355	327,836	286,300	199,574	252,682	885,491	751,261
Preferred dividends	(10,403)	(10,403)	(10,403)	(10,403)	(10,402)	(31,209)	(31,242)
After-tax operating income available to Arch common shareholders	\$ 260,952	\$ 317,433	\$ 275,897	\$ 189,171	\$ 242,280	\$ 854,282	\$ 720,019
Effective tax rate on pre-tax operating income (loss) available to Arch (a)/(b)	11.7%	10.1%	13.1%	16.8%	11.8%	11.6%	10.5%

(1) Line items are presented on a 'core' basis, excluding amounts related to the 'other' segment (*i.e.*, results of Watford). See 'Comments on Regulation G' for a further discussion of the presentation of 'core' results.

(2) Balances in the 'other' segment and a calculation of Arch's share of the 'other' segment operating income (loss) is as follows:

(U.S. Dollars in thousands)

	Three Months Ended					Nine Months Ended	
	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	September 30, 2019	September 30, 2018
Balances in 'other' segment:							
Underwriting income (loss)	\$ (4,443)	\$ (4,593)	\$ (5,378)	\$ (22,031)	\$ (209)	\$ (14,414)	\$ (1,087)
Net investment income	34,614	32,000	35,700	41,591	29,696	102,314	84,084
Interest expense	(8,091)	(5,905)	(5,583)	(5,386)	(5,064)	(19,579)	(14,079)
Preferred dividends	(6,600)	(4,590)	(4,588)	(4,588)	(4,599)	(15,778)	(13,769)
Pre-tax operating income (loss) available to common shareholders	15,480	16,912	20,151	9,586	19,824	52,543	55,149
Arch ownership	11%	11%	11%	11%	11%	11%	11%
Arch share of 'Other' segment operating income (loss) (3)	\$ 1,704	\$ 1,863	\$ 2,222	\$ 1,053	\$ 2,187	\$ 5,789	\$ 6,080

(3) Excludes amounts attributable to net realized gains or losses and net foreign exchange gains or losses in the 'other' segment (see 'Segment Information').

Arch Capital Group Ltd. and Subsidiaries
Capital Structure and Share Repurchase Activity

The following table provides an analysis of the Company's capital structure (1):

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

	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018
Debt:					
Arch Capital senior notes, due May 1, 2034 (\$300,000 principal, 7.35%)	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000
Arch-U.S. senior notes, due Nov. 1, 2043 (\$500,000 principal, 5.144%) (2)	500,000	500,000	500,000	500,000	500,000
Arch Finance senior notes, due December 15, 2026 (\$500,000 principal, 4.011%) (3)	500,000	500,000	500,000	500,000	500,000
Arch Finance senior notes, due December 15, 2046 (\$450,000 principal, 5.031%) (3)	450,000	450,000	450,000	450,000	450,000
Deferred debt costs on senior notes	(15,963)	(16,135)	(16,306)	(16,472)	(16,636)
Revolving credit agreement borrowings, due October 26, 2021 (variable)	—	—	—	—	125,000
Total debt	\$ 1,734,037	\$ 1,733,865	\$ 1,733,694	\$ 1,733,528	\$ 1,858,364
Shareholders' equity available to Arch:					
Series E non-cumulative preferred shares (5.25%)	450,000	450,000	450,000	450,000	450,000
Series F non-cumulative preferred shares (5.45%)	330,000	330,000	330,000	330,000	330,000
Common shareholders' equity (a)	10,378,096	9,977,352	9,334,596	8,659,827	8,575,148
Total shareholders' equity available to Arch	\$ 11,158,096	\$ 10,757,352	\$ 10,114,596	\$ 9,439,827	\$ 9,355,148
Total capital available to Arch	\$ 12,892,133	\$ 12,491,217	\$ 11,848,290	\$ 11,173,355	\$ 11,213,512
Common shares outstanding, net of treasury shares (b)	405,230,531	404,887,534	403,738,764	402,454,834	405,524,360
Book value per common share (4) (a)/(b)	\$ 25.61	\$ 24.64	\$ 23.12	\$ 21.52	\$ 21.15
Leverage ratios:					
Senior notes/total capital available to Arch	13.5%	13.9%	14.6%	15.5%	15.5%
Revolving credit agreement borrowings/total capital available to Arch	—%	—%	—%	—%	1.1%
Debt/total capital available to Arch	13.5%	13.9%	14.6%	15.5%	16.6%
Preferred/total capital available to Arch	6.1%	6.2%	6.6%	7.0%	7.0%
Debt and preferred/total capital available to Arch	19.5%	20.1%	21.2%	22.5%	23.5%

(1) Presented on a 'core' basis which excludes amounts related to the 'other' segment (*i.e.*, results of Watford). See 'Comments on Regulation G' for a further discussion of the presentation of 'core' results.

(2) Issued by Arch Capital Group (U.S.) Inc. ("Arch-U.S."), a wholly owned subsidiary of Arch Capital, and fully and unconditionally guaranteed by Arch Capital.

(3) Issued by Arch Capital Finance LLC ("Arch Finance"), a wholly owned subsidiary of Arch U.S. MI Holdings Inc., and fully and unconditionally guaranteed by Arch Capital.

(4) Excludes the effects of stock options, restricted and performance stock units outstanding.

The following table provides the impact of share repurchases under the Company's share repurchase program:

(U.S. Dollars in thousands except share data)

	Three Months Ended					Cumulative
	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	September 30, 2019
Effect of share repurchases:						
Aggregate cost of shares repurchased	\$ —	\$ —	\$ 2,871	\$ 98,233	\$ 10,954	\$ 3,968,294
Shares repurchased	—	—	110,598	3,623,534	413,671	386,341,980
Average price per share repurchased	\$ —	\$ —	\$ 25.96	\$ 27.11	\$ 26.48	\$ 10.27
Remaining share repurchase authorization (1)						\$ 160,867

(1) Repurchases under the share repurchase authorization may be effected from time to time in open market or privately negotiated transactions through December 31, 2019.