



Arch Capital Group Ltd.
Waterloo House, Ground Floor
100 Pitts Bay Road
Pembroke HM 08 Bermuda

Financial Supplement

Financial Information as of December 31, 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.

Contacts

Arch Capital Group Ltd.

François Morin: (441) 278-9250

Investor Relations

Donald Watson: (914) 872-3616; dwatson@archcapservices.com

Arch Capital Group Ltd. and Subsidiaries
Table of Contents

	<u>Page</u>
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 common equity and a warrant to purchase additional common equity of Watford Holdings Ltd. In accordance with GAAP, the Company consolidates the results of Watford Holdings Ltd. (“Watford”) in its financial statements, although it only owns approximately 13% of Watford’s outstanding common equity at December 31, 2019. 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 December 31,			Year Ended December 31,		
	2019	2018	Change	2019	2018	Change
Underwriting results:						
Gross premiums written	\$ 1,842,071	\$ 1,599,085	15.2%	\$ 7,695,645	\$ 6,534,423	17.8 %
Net premiums written	1,343,100	1,169,394	14.9%	5,506,205	4,742,572	16.1 %
Net premiums earned	1,382,437	1,222,462	13.1%	5,229,809	4,653,113	12.4 %
Underwriting income (2)	288,672	188,986	52.7%	1,087,630	897,116	21.2 %
Loss ratio	51.4%	57.1%	(5.7)	51.3%	52.6%	(1.3)
Acquisition expense ratio	14.3%	14.6%	(0.3)	14.1%	14.6%	(0.5)
Other operating expense ratio	13.9%	12.7%	1.2	14.3%	13.8%	0.5
Combined ratio	79.6%	84.4%	(4.8)	79.7%	81.0%	(1.3)
Net investment income	\$ 119,906	\$ 115,626	3.7%	\$ 491,067	\$ 437,958	12.1 %
<i>Per diluted share</i>	\$ 0.29	\$ 0.28	3.6%	\$ 1.19	\$ 1.06	12.3 %
Net income available to Arch common shareholders	\$ 315,981	\$ 126,091	150.6%	\$ 1,594,707	\$ 713,616	123.5 %
<i>Per diluted share</i>	\$ 0.76	\$ 0.31	145.2%	\$ 3.87	\$ 1.73	123.7 %
After-tax operating income available to Arch common shareholders (2)	\$ 308,357	\$ 189,171	63.0%	\$ 1,162,639	\$ 909,190	27.9 %
<i>Per diluted share</i>	\$ 0.74	\$ 0.46	60.9%	\$ 2.82	\$ 2.20	28.2 %
Comprehensive income available to Arch	\$ 326,760	\$ 178,817	82.7%	\$ 2,027,129	\$ 611,003	231.8 %
Net cash provided by operating activities	\$ 443,298	\$ 383,622	15.6%	\$ 1,810,060	\$ 1,331,278	36.0 %
Weighted average common shares and common share equivalents outstanding — diluted	414,124,920	410,112,097	1.0%	411,609,478	412,906,478	(0.3)%
Financial measures:						
Change in book value per common share during period	3.2%	1.7%	1.5	22.8%	6.0%	16.8
Annualized return on average common equity	12.0%	5.9%	6.1	16.5%	8.4%	8.1
Annualized operating return on average common equity (2)	11.7%	8.8%	2.9	12.0%	10.7%	1.3
Total return on investments (3)	1.07%	0.51%	56 bps	7.30%	0.33%	697 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					Year Ended	
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	December 31, 2019	December 31, 2018
Revenues							
Net premiums written	\$ 1,455,453	\$ 1,613,457	\$ 1,444,898	\$ 1,525,259	\$ 1,301,754	\$ 6,039,067	\$ 5,346,747
Change in unearned premiums	60,429	(175,434)	18,829	(156,393)	67,681	(252,569)	(114,772)
Net premiums earned	1,515,882	1,438,023	1,463,727	1,368,866	1,369,435	5,786,498	5,231,975
Net investment income	154,263	161,488	155,038	156,949	157,217	627,738	563,633
Net realized gains (losses)	41,474	62,518	120,806	141,565	(166,030)	366,363	(405,344)
Net impairment losses recognized in earnings	(644)	(1,163)	(49)	(1,309)	(1,705)	(3,165)	(2,829)
Other underwriting income	6,757	3,326	5,953	8,825	27	24,861	15,073
Equity in net income (loss) of investment funds accounted for using the equity method	27,139	17,130	32,536	46,867	(6,882)	123,672	45,641
Other income (loss)	(1,317)	1,338	1,129	1,083	(42)	2,233	2,419
Total revenues	1,743,554	1,682,660	1,779,140	1,722,846	1,352,020	6,928,200	5,450,568
Expenses							
Losses and loss adjustment expenses	(844,922)	(802,455)	(767,543)	(718,532)	(827,673)	(3,133,452)	(2,890,106)
Acquisition expenses	(221,888)	(211,120)	(210,089)	(197,848)	(209,319)	(840,945)	(805,135)
Other operating expenses	(204,408)	(196,512)	(198,914)	(201,163)	(165,515)	(800,997)	(677,809)
Corporate expenses	(26,837)	(17,061)	(18,251)	(17,962)	(26,835)	(80,111)	(78,994)
Amortization of intangible assets	(21,890)	(20,003)	(19,794)	(20,417)	(26,147)	(82,104)	(105,670)
Interest expense	(31,199)	(31,328)	(29,280)	(29,065)	(29,774)	(120,872)	(120,484)
Net foreign exchange gains (losses)	(52,306)	33,124	(4,952)	3,525	24,579	(20,609)	69,402
Total expenses	(1,403,450)	(1,245,355)	(1,248,823)	(1,181,462)	(1,260,684)	(5,079,090)	(4,608,796)
Income before income taxes	340,104	437,305	530,317	541,384	91,336	1,849,110	841,772
Income tax expense	(27,336)	(38,116)	(44,472)	(45,886)	(35,012)	(155,810)	(113,951)
Net income	312,768	399,189	485,845	495,498	56,324	1,693,300	727,821
Net (income) loss attributable to noncontrolling interests	13,616	(6,736)	(16,891)	(46,970)	80,170	(56,981)	30,150
Net income attributable to Arch	326,384	392,453	468,954	448,528	136,494	1,636,319	757,971
Preferred dividends	(10,403)	(10,403)	(10,403)	(10,403)	(10,403)	(41,612)	(41,645)
Loss on redemption of preferred shares	—	—	—	—	—	—	(2,710)
Net income available to Arch common shareholders	\$ 315,981	\$ 382,050	\$ 458,551	\$ 438,125	\$ 126,091	\$ 1,594,707	\$ 713,616
Comprehensive income available to Arch	\$ 326,760	\$ 397,340	\$ 637,458	\$ 665,571	\$ 178,817	\$ 2,027,129	\$ 611,003
Net income per common share and common share equivalent							
Basic	\$ 0.78	\$ 0.95	\$ 1.14	\$ 1.09	\$ 0.31	\$ 3.97	\$ 1.76
Diluted	\$ 0.76	\$ 0.92	\$ 1.12	\$ 1.07	\$ 0.31	\$ 3.87	\$ 1.73
Weighted average common shares and common share equivalents outstanding							
Basic	402,941,290	402,564,121	401,482,784	400,184,404	402,185,557	401,802,815	404,347,621
Diluted	414,124,920	413,180,201	410,899,483	408,971,029	410,112,097	411,609,478	412,906,478

Arch Capital Group Ltd. and Subsidiaries
Consolidated Balance Sheets

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

	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018
Assets					
Investments:					
Fixed maturities available for sale, at fair value	\$ 16,894,526	\$ 16,470,523	\$ 15,881,732	\$ 15,177,312	\$ 14,699,010
Short-term investments available for sale, at fair value	956,546	751,989	821,961	706,214	955,880
Collateral received under securities lending, at fair value	388,376	430,263	450,320	415,056	274,133
Equity securities, at fair value	838,925	550,485	670,943	495,895	338,899
Investments accounted for using the fair value option	3,663,477	3,838,243	3,721,035	3,969,623	3,983,571
Investments accounted for using the equity method	1,660,396	1,575,832	1,581,972	1,563,779	1,493,791
Total investments	24,402,246	23,617,335	23,127,963	22,327,879	21,745,284
Cash	726,230	880,099	605,316	633,100	646,556
Accrued investment income	117,937	116,196	119,252	112,935	114,641
Securities pledged under securities lending, at fair value	379,868	420,415	440,510	404,262	268,395
Premiums receivable	1,778,717	1,618,186	1,606,040	1,584,682	1,299,150
Reinsurance recoverable on unpaid and paid losses and loss adjustment expenses	4,346,816	3,168,195	3,171,257	3,099,823	2,919,372
Contractholder receivables	2,119,460	2,094,683	2,102,544	2,087,720	2,079,111
Ceded unearned premiums	1,234,683	1,168,258	1,136,728	1,099,581	975,469
Deferred acquisition costs	633,400	622,028	600,740	597,526	569,574
Receivable for securities sold	24,133	50,615	164,592	334,982	36,246
Goodwill and intangible assets	738,083	624,500	641,010	659,215	634,920
Other assets	1,383,788	1,192,093	1,135,718	1,035,332	929,611
Total assets	\$ 37,885,361	\$ 35,572,603	\$ 34,851,670	\$ 33,977,037	\$ 32,218,329
Liabilities					
Reserve for losses and loss adjustment expenses	\$ 13,891,842	\$ 12,389,384	\$ 12,230,316	\$ 12,010,041	\$ 11,853,297
Unearned premiums	4,339,549	4,243,372	4,056,860	4,036,119	3,753,636
Reinsurance balances payable	667,072	601,891	531,990	453,058	393,107
Contractholder payables	2,119,460	2,094,683	2,102,544	2,087,720	2,079,111
Collateral held for insured obligations	206,698	205,449	237,056	232,411	236,630
Senior notes	1,871,626	1,871,386	1,733,865	1,733,694	1,733,528
Revolving credit agreement borrowings	484,287	490,720	491,006	488,612	455,682
Securities lending payable	388,366	430,255	450,312	415,048	274,125
Payable for securities purchased	87,579	176,130	294,109	376,332	90,034
Other liabilities	1,513,330	1,007,524	904,438	984,942	911,500
Total liabilities	25,569,809	23,510,794	23,032,496	22,817,977	21,780,650
Redeemable noncontrolling interests	55,404	48,789	206,475	206,383	206,292
Shareholders' equity					
Non-cumulative preferred shares	780,000	780,000	780,000	780,000	780,000
Common shares	638	638	638	636	634
Additional paid-in capital	1,889,683	1,864,468	1,847,949	1,819,605	1,793,781
Retained earnings	11,021,006	10,705,025	10,322,975	9,864,424	9,426,299
Accumulated other comprehensive income (loss), net of deferred income tax	212,091	211,714	206,827	38,323	(178,720)
Common shares held in treasury, at cost	(2,406,047)	(2,403,749)	(2,401,037)	(2,388,392)	(2,382,167)
Total shareholders' equity available to Arch	11,497,371	11,158,096	10,757,352	10,114,596	9,439,827
Non-redeemable noncontrolling interests	762,777	854,924	855,347	838,081	791,560
Total shareholders' equity	12,260,148	12,013,020	11,612,699	10,952,677	10,231,387
Total liabilities, noncontrolling interests and shareholders' equity	\$ 37,885,361	\$ 35,572,603	\$ 34,851,670	\$ 33,977,037	\$ 32,218,329
Common shares and common share equivalents outstanding, net of treasury shares	405,619,201	405,230,531	404,887,534	403,738,764	402,454,834
Book value per common share (1)	\$ 26.42	\$ 25.61	\$ 24.64	\$ 23.12	\$ 21.52

(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				Year Ended		
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	December 31, 2019	December 31, 2018
Non-cumulative preferred shares							
Balance at beginning of period	\$ 780,000	\$ 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>	<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>	<u>—</u>
Common shares							
Balance at beginning of period	638	638	636	634	633	634	611
Common shares issued, net	—	—	2	2	1	4	23
Balance at end of period	<u>638</u>	<u>638</u>	<u>638</u>	<u>636</u>	<u>634</u>	<u>638</u>	<u>634</u>
Additional paid-in capital							
Balance at beginning of period	1,864,468	1,847,949	1,819,605	1,793,781	1,775,499	1,793,781	1,230,617
Preferred shares converted to common shares	—	—	—	—	—	—	489,608
Reversal of original issue costs on redeemed preferred shares	—	—	—	—	—	—	2,710
All other	25,215	16,519	28,344	25,824	18,282	95,902	70,846
Balance at end of period	<u>1,889,683</u>	<u>1,864,468</u>	<u>1,847,949</u>	<u>1,819,605</u>	<u>1,793,781</u>	<u>1,889,683</u>	<u>1,793,781</u>
Retained earnings							
Balance at beginning of period	10,705,025	10,322,975	9,864,424	9,426,299	9,300,208	9,426,299	8,562,889
Cumulative effect of an accounting change	—	—	—	—	—	—	149,794
Balance at beginning of period, as adjusted	10,705,025	10,322,975	9,864,424	9,426,299	9,300,208	9,426,299	8,712,683
Net income	312,768	399,189	485,845	495,498	56,324	1,693,300	727,821
Amounts attributable to noncontrolling interests	13,616	(6,736)	(16,891)	(46,970)	80,170	(56,981)	30,150
Preferred share dividends	(10,403)	(10,403)	(10,403)	(10,403)	(10,403)	(41,612)	(41,645)
Loss on redemption of preferred shares	—	—	—	—	—	—	(2,710)
Balance at end of period	<u>11,021,006</u>	<u>10,705,025</u>	<u>10,322,975</u>	<u>9,864,424</u>	<u>9,426,299</u>	<u>11,021,006</u>	<u>9,426,299</u>
Accumulated other comprehensive income (loss)							
Balance at beginning of period	211,714	206,827	38,323	(178,720)	(221,041)	(178,720)	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	(24,707)	21,566	164,425	211,380	58,042	372,664	(121,784)
Change in foreign currency translation adjustments	25,084	(16,679)	4,079	5,663	(15,721)	18,147	(25,186)
Balance at end of period	<u>212,091</u>	<u>211,714</u>	<u>206,827</u>	<u>38,323</u>	<u>(178,720)</u>	<u>212,091</u>	<u>(178,720)</u>
Common shares held in treasury, at cost							
Balance at beginning of period	(2,403,749)	(2,401,037)	(2,388,392)	(2,382,167)	(2,280,151)	(2,382,167)	(2,077,741)
Shares repurchased for treasury	(2,298)	(2,712)	(12,645)	(6,225)	(102,016)	(23,880)	(304,426)
Balance at end of period	<u>(2,406,047)</u>	<u>(2,403,749)</u>	<u>(2,401,037)</u>	<u>(2,388,392)</u>	<u>(2,382,167)</u>	<u>(2,406,047)</u>	<u>(2,382,167)</u>
Total shareholders' equity available to Arch	<u>11,497,371</u>	<u>11,158,096</u>	<u>10,757,352</u>	<u>10,114,596</u>	<u>9,439,827</u>	<u>11,497,371</u>	<u>9,439,827</u>
Non-redeemable noncontrolling interests	762,777	854,924	855,347	838,081	791,560	762,777	791,560
Total shareholders' equity	<u>\$ 12,260,148</u>	<u>\$ 12,013,020</u>	<u>\$ 11,612,699</u>	<u>\$ 10,952,677</u>	<u>\$ 10,231,387</u>	<u>\$ 12,260,148</u>	<u>\$ 10,231,387</u>

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

(U.S. Dollars in thousands)

	Three Months Ended					Year Ended	
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	December 31, 2019	December 31, 2018
Operating Activities							
Net income	\$ 312,768	\$ 399,189	\$ 485,845	\$ 495,498	\$ 56,324	\$ 1,693,300	\$ 727,821
Adjustments to reconcile net income to net cash provided by operating activities:							
Net realized (gains) losses	(52,079)	(64,760)	(118,893)	(145,400)	162,793	(381,132)	387,550
Net impairment losses included in earnings	644	1,163	49	1,309	1,705	3,165	2,829
Equity in net income or loss of investment funds accounted for using the equity method and other income or loss	24,899	6,808	(15,968)	(29,752)	30,337	(14,013)	36,694
Amortization of intangible assets	21,890	20,003	19,794	20,417	26,147	82,104	105,670
Share-based compensation	11,985	12,895	15,646	25,891	9,970	66,417	55,776
Changes in:							
Reserve for losses and loss adjustment expenses, net	112,907	222,678	160,401	(6,005)	175,489	489,981	243,734
Unearned premiums, net	(60,429)	175,434	(18,829)	156,393	(67,681)	252,569	114,772
Premiums receivable	91,013	(26,715)	(16,913)	(285,137)	(8,049)	(237,752)	(211,296)
Deferred acquisition costs	(8,654)	(13,816)	(1,622)	(23,168)	(1,773)	(47,260)	(37,847)
Reinsurance balances payable	(32,770)	75,487	76,810	62,605	(10,258)	182,132	73,438
Other items, net	83,146	22,249	(109,194)	(37,253)	63,331	(41,052)	60,181
Net cash provided by operating activities	505,320	830,615	477,126	235,398	438,335	2,048,459	1,559,322
Investing Activities							
Purchases of fixed maturity investments	(6,043,154)	(7,677,977)	(8,888,176)	(7,444,470)	(8,489,743)	(30,053,777)	(33,327,660)
Purchases of equity securities	(287,916)	(92,112)	(228,129)	(203,810)	(181,807)	(811,967)	(1,001,149)
Purchases of other investments	(455,620)	(337,862)	(352,470)	(324,593)	(471,290)	(1,470,545)	(2,014,622)
Proceeds from sales of fixed maturity investments	5,888,011	7,075,372	8,555,892	7,076,590	8,203,068	28,595,865	31,513,271
Proceeds from sales of equity securities	58,688	194,429	81,684	95,017	251,526	429,818	1,118,445
Proceeds from sales, redemptions and maturities of other investments	382,042	292,819	318,215	216,483	383,923	1,209,559	1,561,958
Proceeds from redemptions and maturities of fixed maturity investments	248,546	149,770	144,525	100,424	168,734	643,265	892,755
Net settlements of derivative instruments	(32,441)	4,722	57,964	29,737	43,934	59,982	44,699
Net (purchases) sales of short-term investments	(89,245)	(72,442)	(91,081)	292,601	(68,842)	39,833	485,473
Change in cash collateral related to securities lending	(69,183)	(600)	37,208	(29,618)	43,810	(62,193)	180,883
Purchases of fixed assets	(10,202)	(11,276)	(6,936)	(9,423)	(10,759)	(37,837)	(29,809)
Other	(145,533)	(28,375)	(80,847)	(93,731)	(36,491)	(348,486)	21,736
Net cash provided by (used for) investing activities	(556,007)	(503,532)	(452,151)	(294,793)	(163,937)	(1,806,483)	(554,020)
Financing Activities							
Redemption of preferred shares	—	—	—	—	—	—	(92,555)
Purchases of common shares under share repurchase program	—	—	—	(2,871)	(98,233)	(2,871)	(282,762)
Proceeds from common shares issued, net	5,685	1,075	1,344	(1,901)	4,421	6,203	(7,608)
Proceeds from borrowings	—	137,283	3,800	59,000	51,000	200,083	218,259
Repayments of borrowings	(21,644)	—	(1,500)	(26,038)	(149,401)	(49,182)	(576,401)
Change in cash collateral related to securities lending	69,183	600	(37,208)	29,618	(43,810)	62,193	(180,883)
Change in third party investment in non-redeemable noncontrolling interests	(75,056)	—	—	—	—	(75,056)	—
Change in third party investment in redeemable noncontrolling interests	(8)	(161,874)	—	—	—	(161,882)	—
Dividends paid to redeemable noncontrolling interests	(1,107)	(2,414)	(4,497)	(4,497)	(4,498)	(12,515)	(17,989)
Other	(816)	(1,678)	(2,140)	(1,389)	(1,142)	(6,023)	(7,226)
Preferred dividends paid	(10,403)	(10,403)	(10,403)	(10,403)	(10,403)	(41,612)	(41,645)
Net cash provided by (used for) financing activities	(34,166)	(37,411)	(50,604)	41,519	(252,066)	(80,662)	(988,810)
Effects of exchange rate changes on foreign currency cash and restricted cash	26,076	(10,272)	(1,512)	3,449	(7,508)	17,741	(19,133)
Increase (decrease) in cash and restricted cash	(58,777)	279,400	(27,141)	(14,427)	14,824	179,055	(2,641)
Cash and restricted cash, beginning of period	962,475	683,075	710,216	724,643	709,819	724,643	727,284
Cash and restricted cash, end of period	\$ 903,698	\$ 962,475	\$ 683,075	\$ 710,216	\$ 724,643	\$ 903,698	\$ 724,643
Income taxes paid (received)	\$ 62,398	\$ 3,565	\$ 76,166	\$ (32,666)	\$ 33,032	\$ 109,463	\$ (980)
Interest paid	\$ 58,385	\$ 7,702	\$ 54,612	\$ 6,246	\$ 52,170	\$ 126,945	\$ 119,775
Net cash provided by operating activities, excluding the 'other' segment	\$ 443,298	\$ 769,486	\$ 431,865	\$ 165,411	\$ 383,622	\$ 1,810,060	\$ 1,331,278

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 13% 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 December 31, 2019					
	Insurance	Reinsurance	Mortgage	Sub-total (Core)	Other	Total
Gross premiums written (1)	\$ 1,040,240	\$ 432,249	\$ 370,658	\$ 1,842,071	\$ 156,254	\$ 1,942,151
Premiums ceded	(351,516)	(93,380)	(55,151)	(498,971)	(43,901)	(486,698)
Net premiums written	688,724	338,869	315,507	1,343,100	112,353	1,455,453
Change in unearned premiums	(42,927)	50,116	32,148	39,337	21,092	60,429
Net premiums earned	645,797	388,985	347,655	1,382,437	133,445	1,515,882
Other underwriting income	—	2,051	4,138	6,189	568	6,757
Losses and loss adjustment expenses	(446,798)	(260,182)	(3,287)	(710,267)	(134,655)	(844,922)
Acquisition expenses	(96,437)	(65,528)	(35,597)	(197,562)	(24,326)	(221,888)
Other operating expenses	(116,443)	(39,287)	(36,395)	(192,125)	(12,283)	(204,408)
Underwriting income (loss)	\$ (13,881)	\$ 26,039	\$ 276,514	288,672	(37,251)	251,421
Net investment income				119,906	34,357	154,263
Net realized gains				32,480	8,994	41,474
Net impairment losses recognized in earnings				(644)	—	(644)
Equity in net income (loss) of investment funds accounted for using the equity method				27,139	—	27,139
Other income				(1,317)	—	(1,317)
Corporate expenses (2)				(17,756)	—	(17,756)
Transaction costs and other (2)				(9,081)	—	(9,081)
Amortization of intangible assets				(21,890)	—	(21,890)
Interest expense				(23,641)	(7,558)	(31,199)
Net foreign exchange gains (losses)				(38,031)	(14,275)	(52,306)
Income (loss) before income taxes				355,837	(15,733)	340,104
Income tax expense				(27,336)	—	(27,336)
Net income				328,501	(15,733)	312,768
Dividends attributable to redeemable noncontrolling interests				—	(1,131)	(1,131)
Amounts attributable to nonredeemable noncontrolling interests				—	14,747	14,747
Net income (loss) available to Arch				328,501	(2,117)	326,384
Preferred dividends				(10,403)	—	(10,403)
Net income (loss) available to Arch common shareholders				\$ 318,098	\$ (2,117)	\$ 315,981
Underwriting Ratios						
Loss ratio	69.2%	66.9%	0.9%	51.4%	100.9%	55.7%
Acquisition expense ratio	14.9%	16.8%	10.2%	14.3%	18.2%	14.6%
Other operating expense ratio	18.0%	10.1%	10.5%	13.9%	9.2%	13.5%
Combined ratio	102.1%	93.8%	21.6%	79.6%	128.3%	83.8%
Net premiums written to gross premiums written	66.2%	78.4%	85.1%	72.9%	71.9%	74.9%
Total investable assets				\$ 22,285,676	\$ 2,704,589	\$ 24,990,265
Total assets				34,374,468	3,510,893	37,885,361
Total liabilities				22,977,636	2,592,173	25,569,809

- (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 December 31, 2018					
	Insurance	Reinsurance	Mortgage	Sub-total (Core)	Other	Total
Gross premiums written (1)	\$ 832,762	\$ 409,316	\$ 357,981	\$ 1,599,085	\$ 160,937	\$ 1,694,918
Premiums ceded	(297,794)	(84,268)	(48,603)	(429,691)	(28,577)	(393,164)
Net premiums written	534,968	325,048	309,378	1,169,394	132,360	1,301,754
Change in unearned premiums	24,449	23,405	5,214	53,068	14,613	67,681
Net premiums earned	559,417	348,453	314,592	1,222,462	146,973	1,369,435
Other underwriting income (loss)	—	(3,172)	2,569	(603)	630	27
Losses and loss adjustment expenses	(400,050)	(291,838)	(6,617)	(698,505)	(129,168)	(827,673)
Acquisition expenses	(85,608)	(62,452)	(30,930)	(178,990)	(30,329)	(209,319)
Other operating expenses	(89,403)	(32,165)	(33,810)	(155,378)	(10,137)	(165,515)
Underwriting income (loss)	\$ (15,644)	\$ (41,174)	\$ 245,804	188,986	(22,031)	166,955
Net investment income				115,626	41,591	157,217
Net realized gains (losses)				(66,015)	(100,015)	(166,030)
Net impairment losses recognized in earnings				(1,705)	—	(1,705)
Equity in net income (loss) of investment funds accounted for using the equity method				(6,882)	—	(6,882)
Other income (loss)				(42)	—	(42)
Corporate expenses (2)				(15,278)	—	(15,278)
Transaction costs and other (2)				(2,557)	(9,000)	(11,557)
Amortization of intangible assets				(26,147)	—	(26,147)
Interest expense				(24,388)	(5,386)	(29,774)
Net foreign exchange gains (losses)				20,409	4,170	24,579
Income (loss) before income taxes				182,007	(90,671)	91,336
Income tax expense				(35,012)	—	(35,012)
Net income (loss)				146,995	(90,671)	56,324
Dividends attributable to redeemable noncontrolling interests				—	(4,588)	(4,588)
Amounts attributable to nonredeemable noncontrolling interests				—	84,758	84,758
Net income (loss) available to Arch				146,995	(10,501)	136,494
Preferred dividends				(10,403)	—	(10,403)
Net income (loss) available to Arch common shareholders				\$ 136,592	\$ (10,501)	\$ 126,091
Underwriting Ratios						
Loss ratio	71.5%	83.8%	2.1%	57.1%	87.9%	60.4%
Acquisition expense ratio	15.3%	17.9%	9.8%	14.6%	20.6%	15.3%
Other operating expense ratio	16.0%	9.2%	10.7%	12.7%	6.9%	12.1%
Combined ratio	102.8%	110.9%	22.6%	84.4%	115.4%	87.8%
Net premiums written to gross premiums written	64.2%	79.4%	86.4%	73.1%	82.2%	76.8%
Total investable assets				\$ 19,566,861	\$ 2,757,663	\$ 22,324,524
Total assets				28,845,473	3,372,856	32,218,329
Total liabilities				19,518,395	2,262,255	21,780,650

- (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)

	Year Ended December 31, 2019					
	Insurance	Reinsurance	Mortgage	Sub-total (Core)	Other	Total
Gross premiums written (1)	\$ 3,907,993	\$ 2,323,223	\$ 1,466,265	\$ 7,695,645	\$ 754,881	\$ 8,138,960
Premiums ceded	(1,266,267)	(720,500)	(204,509)	(2,189,440)	(222,019)	(2,099,893)
Net premiums written	2,641,726	1,602,723	1,261,756	5,506,205	532,862	6,039,067
Change in unearned premiums	(244,646)	(136,334)	104,584	(276,396)	23,827	(252,569)
Net premiums earned	2,397,080	1,466,389	1,366,340	5,229,809	556,689	5,786,498
Other underwriting income	—	6,444	16,005	22,449	2,412	24,861
Losses and loss adjustment expenses	(1,615,475)	(1,011,329)	(53,513)	(2,680,317)	(453,135)	(3,133,452)
Acquisition expenses	(361,614)	(239,032)	(134,319)	(734,965)	(105,980)	(840,945)
Other operating expenses	(454,770)	(141,484)	(153,092)	(749,346)	(51,651)	(800,997)
Underwriting income (loss)	\$ (34,779)	\$ 80,988	\$ 1,041,421	1,087,630	(51,665)	1,035,965
Net investment income				491,067	136,671	627,738
Net realized gains (losses)				351,202	15,161	366,363
Net impairment losses recognized in earnings				(3,165)	—	(3,165)
Equity in net income (loss) of investment funds accounted for using the equity method				123,672	—	123,672
Other income (loss)				2,233	—	2,233
Corporate expenses (2)				(65,667)	—	(65,667)
Transaction costs and other (2)				(14,444)	—	(14,444)
Amortization of intangible assets				(82,104)	—	(82,104)
Interest expense				(93,735)	(27,137)	(120,872)
Net foreign exchange gains (losses)				(9,252)	(11,357)	(20,609)
Income before income taxes				1,787,437	61,673	1,849,110
Income tax expense				(155,790)	(20)	(155,810)
Net income				1,631,647	61,653	1,693,300
Dividends attributable to redeemable noncontrolling interests				—	(16,909)	(16,909)
Amounts attributable to nonredeemable noncontrolling interests				—	(40,072)	(40,072)
Net income available to Arch				1,631,647	4,672	1,636,319
Preferred dividends				(41,612)	—	(41,612)
Net income available to Arch common shareholders				\$ 1,590,035	\$ 4,672	\$ 1,594,707
Underwriting Ratios						
Loss ratio	67.4%	69.0%	3.9%	51.3%	81.4%	54.2%
Acquisition expense ratio	15.1%	16.3%	9.8%	14.1%	19.0%	14.5%
Other operating expense ratio	19.0%	9.6%	11.2%	14.3%	9.3%	13.8%
Combined ratio	101.5%	94.9%	24.9%	79.7%	109.7%	82.5%
Net premiums written to gross premiums written	67.6%	69.0%	86.1%	71.5%	70.6%	74.2%

(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)

	Year Ended December 31, 2018					
	Insurance	Reinsurance	Mortgage	Sub-total (Core)	Other	Total
Gross premiums written (1)	\$ 3,262,332	\$ 1,912,522	\$ 1,360,708	\$ 6,534,423	\$ 735,015	\$ 6,961,004
Premiums ceded	(1,050,207)	(539,950)	(202,833)	(1,791,851)	(130,840)	(1,614,257)
Net premiums written	2,212,125	1,372,572	1,157,875	4,742,572	604,175	5,346,747
Change in unearned premiums	(6,464)	(111,356)	28,361	(89,459)	(25,313)	(114,772)
Net premiums earned	2,205,661	1,261,216	1,186,236	4,653,113	578,862	5,231,975
Other underwriting income (loss)	—	(682)	13,033	12,351	2,722	15,073
Losses and loss adjustment expenses	(1,520,680)	(846,882)	(81,289)	(2,448,851)	(441,255)	(2,890,106)
Acquisition expenses	(349,702)	(211,280)	(118,595)	(679,577)	(125,558)	(805,135)
Other operating expenses	(364,138)	(133,350)	(142,432)	(639,920)	(37,889)	(677,809)
Underwriting income (loss)	\$ (28,859)	\$ 69,022	\$ 856,953	897,116	(23,118)	873,998
Net investment income				437,958	125,675	563,633
Net realized gains (losses)				(284,429)	(120,915)	(405,344)
Net impairment losses recognized in earnings				(2,829)	—	(2,829)
Equity in net income (loss) of investment funds accounted for using the equity method				45,641	—	45,641
Other income (loss)				2,419	—	2,419
Corporate expenses (2)				(58,608)	—	(58,608)
Transaction costs and other (2)				(11,386)	(9,000)	(20,386)
Amortization of intangible assets				(105,670)	—	(105,670)
Interest expense				(101,019)	(19,465)	(120,484)
Net foreign exchange gains (losses)				58,711	10,691	69,402
Income before income taxes				877,904	(36,132)	841,772
Income tax expense				(113,924)	(27)	(113,951)
Net income				763,980	(36,159)	727,821
Dividends attributable to redeemable noncontrolling interests				—	(18,357)	(18,357)
Amounts attributable to nonredeemable noncontrolling interests				—	48,507	48,507
Net income available to Arch				763,980	(6,009)	757,971
Preferred dividends				(41,645)	—	(41,645)
Loss on redemption of preferred shares				(2,710)	—	(2,710)
Net income available to Arch common shareholders				\$ 719,625	\$ (6,009)	\$ 713,616
Underwriting Ratios						
Loss ratio	68.9%	67.1%	6.9%	52.6%	76.2%	55.2%
Acquisition expense ratio	15.9%	16.8%	10.0%	14.6%	21.7%	15.4%
Other operating expense ratio	16.5%	10.6%	12.0%	13.8%	6.5%	13.0%
Combined ratio	101.3%	94.5%	28.9%	81.0%	104.4%	83.6%
Net premiums written to gross premiums written	67.8%	71.8%	85.1%	72.6%	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					Year Ended	
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	December 31, 2019	December 31, 2018
Gross premiums written	\$ 1,040,240	\$ 1,005,874	\$ 919,925	\$ 941,954	\$ 832,762	\$ 3,907,993	\$ 3,262,332
Premiums ceded	(351,516)	(302,034)	(292,095)	(320,622)	(297,794)	(1,266,267)	(1,050,207)
Net premiums written	688,724	703,840	627,830	621,332	534,968	2,641,726	2,212,125
Change in unearned premiums	(42,927)	(98,504)	(35,388)	(67,827)	24,449	(244,646)	(6,464)
Net premiums earned	645,797	605,336	592,442	553,505	559,417	2,397,080	2,205,661
Losses and loss adjustment expenses	(446,798)	(422,782)	(389,172)	(356,723)	(400,050)	(1,615,475)	(1,520,680)
Acquisition expenses	(96,437)	(91,259)	(91,094)	(82,824)	(85,608)	(361,614)	(349,702)
Other operating expenses	(116,443)	(115,408)	(109,523)	(113,396)	(89,403)	(454,770)	(364,138)
Underwriting income (loss)	\$ (13,881)	\$ (24,113)	\$ 2,653	\$ 562	\$ (15,644)	\$ (34,779)	\$ (28,859)
Underwriting Ratios							
Loss ratio	69.2 %	69.8 %	65.7 %	64.4 %	71.5 %	67.4 %	68.9 %
Acquisition expense ratio	14.9 %	15.1 %	15.4 %	15.0 %	15.3 %	15.1 %	15.9 %
Other operating expense ratio	18.0 %	19.1 %	18.5 %	20.5 %	16.0 %	19.0 %	16.5 %
Combined ratio	102.1 %	104.0 %	99.6 %	99.9 %	102.8 %	101.5 %	101.3 %
Catastrophic activity and prior year development:							
Current accident year catastrophic events, net of reinsurance and reinstatement premiums	0.9 %	4.3 %	0.4 %	0.0 %	6.0 %	1.4 %	3.4 %
Net (favorable) adverse development in prior year loss reserves, net of related adjustments	(0.4)%	(0.6)%	(0.2)%	(0.3)%	(1.5)%	(0.4)%	(1.0)%
Combined ratio excluding catastrophic activity and prior year development (1)	101.6 %	100.3 %	99.4 %	100.2 %	98.3 %	100.5 %	98.9 %
Net premiums written to gross premiums written	66.2 %	70.0 %	68.2 %	66.0 %	64.2 %	67.6 %	67.8 %

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

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

(U.S. Dollars in thousands)

(U.S. Dollars in thousands)	Three Months Ended										Year Ended							
	December 31, 2019		September 30, 2019		June 30, 2019		March 31, 2019		December 31, 2018		December 31, 2019		December 31, 2018					
Net premiums written																		
Professional lines (1)	\$	145,841	21.2%	\$	137,569	19.5 %	\$	121,679	19.4%	\$	109,219	20.4%	\$	534,323	20.2%	\$	450,406	20.4%
Programs		96,653	14.0%		120,039	17.1 %		108,671	17.3%		92,601	17.3%		426,535	16.1%		393,263	17.8%
Property, energy, marine and aviation		95,849	13.9%		97,966	13.9 %		103,819	16.5%		44,017	8.2%		368,120	13.9%		219,174	9.9%
Construction and national accounts		114,437	16.6%		98,522	14.0 %		60,888	9.7%		84,237	15.7%		369,202	14.0%		320,937	14.5%
Travel, accident and health		65,337	9.5%		75,192	10.7 %		76,537	12.2%		67,205	12.6%		305,170	11.6%		290,401	13.1%
Excess and surplus casualty (2)		61,549	8.9%		62,843	8.9 %		58,466	9.3%		41,674	7.8%		228,023	8.6%		168,467	7.6%
Lenders products		35,915	5.2%		31,005	4.4 %		22,373	3.6%		25,825	4.8%		111,708	4.2%		96,094	4.3%
Other (3)		73,143	10.6%		80,704	11.5 %		75,397	12.0%		70,190	13.1%		298,645	11.3%		273,383	12.4%
Total	\$	688,724	100.0%	\$	703,840	100.0 %	\$	627,830	100.0%	\$	534,968	100.0%	\$	2,641,726	100.0%	\$	2,212,125	100.0%
Underwriting location																		
United States	\$	507,193	73.6%	\$	532,808	75.7 %	\$	471,664	75.1%	\$	422,372	79.0%	\$	1,983,476	75.1%	\$	1,736,651	78.5%
Europe		151,182	22.0%		145,512	20.7 %		129,869	20.7%		92,658	17.3%		559,214	21.2%		401,974	18.2%
Other		30,349	4.4%		25,520	3.6 %		26,297	4.2%		19,938	3.7%		99,036	3.7%		73,500	3.3%
Total	\$	688,724	100.0%	\$	703,840	100.0 %	\$	627,830	100.0%	\$	534,968	100.0%	\$	2,641,726	100.0%	\$	2,212,125	100.0%
Net premiums earned																		
Professional lines (1)	\$	133,423	20.7%	\$	135,343	22.4 %	\$	115,667	19.5%	\$	114,910	20.5%	\$	499,224	20.8%	\$	458,425	20.8%
Programs		109,498	17.0%		104,432	17.3 %		102,687	17.3%		100,333	17.9%		414,103	17.3%		389,186	17.6%
Property, energy, marine and aviation		90,087	13.9%		80,246	13.3 %		68,995	11.6%		51,769	9.3%		298,966	12.5%		205,069	9.3%
Construction and national accounts		91,489	14.2%		81,472	13.5 %		76,795	13.0%		83,063	14.8%		325,687	13.6%		322,440	14.6%
Travel, accident and health		67,922	10.5%		81,952	13.5 %		83,636	14.1%		74,153	13.3%		305,085	12.7%		297,147	13.5%
Excess and surplus casualty (2)		56,397	8.7%		53,991	8.9 %		47,858	8.1%		42,430	7.6%		200,615	8.4%		172,424	7.8%
Lenders products (4)		25,001	3.9%		(5,724)	(0.9)%		23,570	4.0%		24,017	4.3%		66,079	2.8%		94,248	4.3%
Other (3)		71,980	11.1%		73,624	12.2 %		73,234	12.4%		68,742	12.3%		287,321	12.0%		266,722	12.1%
Total	\$	645,797	100.0%	\$	605,336	100.0 %	\$	592,442	100.0%	\$	553,505	100.0%	\$	2,397,080	100.0%	\$	2,205,661	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					Year Ended	
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	December 31, 2019	December 31, 2018
Gross premiums written	\$ 432,249	\$ 662,572	\$ 545,547	\$ 682,855	\$ 409,316	\$ 2,323,223	\$ 1,912,522
Premiums ceded	(93,380)	(226,096)	(169,457)	(231,567)	(84,268)	(720,500)	(539,950)
Net premiums written	338,869	436,476	376,090	451,288	325,048	1,602,723	1,372,572
Change in unearned premiums	50,116	(72,621)	(8,906)	(104,923)	23,405	(136,334)	(111,356)
Net premiums earned	388,985	363,855	367,184	346,365	348,453	1,466,389	1,261,216
Other underwriting income (loss)	2,051	(1,208)	1,224	4,377	(3,172)	6,444	(682)
Losses and loss adjustment expenses	(260,182)	(270,379)	(240,958)	(239,810)	(291,838)	(1,011,329)	(846,882)
Acquisition expenses	(65,528)	(62,393)	(56,785)	(54,326)	(62,452)	(239,032)	(211,280)
Other operating expenses	(39,287)	(32,533)	(33,960)	(35,704)	(32,165)	(141,484)	(133,350)
Underwriting income (loss)	\$ 26,039	\$ (2,658)	\$ 36,705	\$ 20,902	\$ (41,174)	\$ 80,988	\$ 69,022
Underwriting Ratios							
Loss ratio	66.9 %	74.3 %	65.6 %	69.2%	83.8 %	69.0 %	67.1 %
Acquisition expense ratio	16.8 %	17.1 %	15.5 %	15.7%	17.9 %	16.3 %	16.8 %
Other operating expense ratio	10.1 %	8.9 %	9.2 %	10.3%	9.2 %	9.6 %	10.6 %
Combined ratio	93.8 %	100.3 %	90.3 %	95.2%	110.9 %	94.9 %	94.5 %
Catastrophic activity and prior year development:							
Current accident year catastrophic events, net of reinsurance and reinstatement premiums	6.4 %	11.5 %	1.2 %	2.3%	24.3 %	5.4 %	9.4 %
Net (favorable) adverse development in prior year loss reserves, net of related adjustments	(4.9)%	(4.0)%	(3.1)%	0.5%	(9.6)%	(3.0)%	(10.7)%
Combined ratio excluding catastrophic activity and prior year development (1)	92.3 %	92.8 %	92.2 %	92.4%	96.2 %	92.5 %	95.8 %
Net premiums written to gross premiums written	78.4 %	65.9 %	68.9 %	66.1%	79.4 %	69.0 %	71.8 %

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

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

(U.S. Dollars in thousands)

(U.S. Dollars in thousands)	Three Months Ended										Year Ended										
	December 31, 2019		September 30, 2019		June 30, 2019		March 31, 2019		December 31, 2018		December 31, 2019		December 31, 2018								
Net premiums written																					
Casualty (1)	\$	85,063	25.1%	\$	178,802	41.0%	\$	78,025	20.7%	\$	168,484	37.3%	\$	103,101	31.7%	\$	510,374	31.8%	\$	400,178	29.2%
Other Specialty (2)		103,254	30.5%		94,072	21.6%		129,174	34.3%		140,477	31.1%		108,363	33.3%		466,977	29.1%		507,971	37.0%
Property excluding property catastrophe		85,859	25.3%		118,671	27.2%		96,050	25.5%		102,740	22.8%		64,025	19.7%		403,320	25.2%		310,293	22.6%
Property catastrophe		37,069	10.9%		23,597	5.4%		46,594	12.4%		3,383	0.7%		27,894	8.6%		110,643	6.9%		79,624	5.8%
Marine and aviation		11,921	3.5%		10,181	2.3%		15,619	4.2%		15,958	3.5%		11,929	3.7%		53,679	3.3%		38,013	2.8%
Other (3)		15,703	4.6%		11,153	2.6%		10,628	2.8%		20,246	4.5%		9,736	3.0%		57,730	3.6%		36,493	2.7%
Total	\$	338,869	100.0%	\$	436,476	100.0%	\$	376,090	100.0%	\$	451,288	100.0%	\$	325,048	100.0%	\$	1,602,723	100.0%	\$	1,372,572	100.0%
Underwriting location																					
Bermuda	\$	116,974	34.5%	\$	190,998	43.8%	\$	159,147	42.3%	\$	111,499	24.7%	\$	146,013	44.9%	\$	578,618	36.1%	\$	487,523	35.5%
United States		119,003	35.1%		145,231	33.3%		109,296	29.1%		156,413	34.7%		94,661	29.1%		529,943	33.1%		413,550	30.1%
Europe and other		102,892	30.4%		100,247	23.0%		107,647	28.6%		183,376	40.6%		84,374	26.0%		494,162	30.8%		471,499	34.4%
Total	\$	338,869	100.0%	\$	436,476	100.0%	\$	376,090	100.0%	\$	451,288	100.0%	\$	325,048	100.0%	\$	1,602,723	100.0%	\$	1,372,572	100.0%
Net premiums earned																					
Casualty (1)	\$	118,258	30.4%	\$	116,242	31.9%	\$	103,164	28.1%	\$	91,624	26.5%	\$	115,157	33.0%	\$	429,288	29.3%	\$	347,034	27.5%
Other Specialty (2)		108,074	27.8%		112,349	30.9%		136,573	37.2%		121,521	35.1%		112,892	32.4%		478,517	32.6%		474,568	37.6%
Property excluding property catastrophe		103,212	26.5%		90,358	24.8%		85,479	23.3%		83,792	24.2%		76,827	22.0%		362,841	24.7%		287,788	22.8%
Property catastrophe		31,048	8.0%		22,617	6.2%		18,537	5.0%		18,732	5.4%		22,956	6.6%		90,934	6.2%		75,249	6.0%
Marine and aviation		12,919	3.3%		11,798	3.2%		12,498	3.4%		11,059	3.2%		11,088	3.2%		48,274	3.3%		39,238	3.1%
Other (3)		15,474	4.0%		10,491	2.9%		10,933	3.0%		19,637	5.7%		9,533	2.7%		56,535	3.9%		37,339	3.0%
Total	\$	388,985	100.0%	\$	363,855	100.0%	\$	367,184	100.0%	\$	346,365	100.0%	\$	348,453	100.0%	\$	1,466,389	100.0%	\$	1,261,216	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					Year Ended	
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	December 31, 2019	December 31, 2018
Gross premiums written	\$ 370,658	\$ 375,092	\$ 364,465	\$ 356,050	\$ 357,981	\$ 1,466,265	\$ 1,360,708
Premiums ceded	(55,151)	(57,703)	(42,857)	(48,798)	(48,603)	(204,509)	(202,833)
Net premiums written	315,507	317,389	321,608	307,252	309,378	1,261,756	1,157,875
Change in unearned premiums	32,148	25,611	31,175	15,650	5,214	104,584	28,361
Net premiums earned	347,655	343,000	352,783	322,902	314,592	1,366,340	1,186,236
Other underwriting income (1)	4,138	3,955	4,056	3,856	2,569	16,005	13,033
Losses and loss adjustment expenses	(3,287)	(13,080)	(25,997)	(11,149)	(6,617)	(53,513)	(81,289)
Acquisition expenses	(35,597)	(34,396)	(32,654)	(31,672)	(30,930)	(134,319)	(118,595)
Other operating expenses	(36,395)	(37,003)	(39,819)	(39,875)	(33,810)	(153,092)	(142,432)
Underwriting income	\$ 276,514	\$ 262,476	\$ 258,369	\$ 244,062	\$ 245,804	\$ 1,041,421	\$ 856,953
Underwriting Ratios							
Loss ratio	0.9 %	3.8 %	7.4 %	3.5 %	2.1 %	3.9 %	6.9 %
Acquisition expense ratio	10.2 %	10.0 %	9.3 %	9.8 %	9.8 %	9.8 %	10.0 %
Other operating expense ratio	10.5 %	10.8 %	11.3 %	12.3 %	10.7 %	11.2 %	12.0 %
Combined ratio	21.6 %	24.6 %	28.0 %	25.6 %	22.6 %	24.9 %	28.9 %
Net (favorable) adverse development in prior year loss reserves, net of related adjustments	(9.4)%	(9.6)%	(6.5)%	(11.3)%	(10.4)%	(9.2)%	(9.0)%
Combined ratio excluding prior year development (2)	31.0 %	34.2 %	34.5 %	36.9 %	33.0 %	34.1 %	37.9 %
Net premiums written to gross premiums written	85.1 %	84.6 %	88.2 %	86.3 %	86.4 %	86.1 %	85.1 %
Net premiums written by underwriting location							
United States	\$ 258,512	\$ 260,202	\$ 258,774	\$ 255,380	\$ 256,472	\$ 1,032,868	\$ 948,323
Other	56,995	57,187	62,834	51,872	52,906	228,888	209,552
Total	\$ 315,507	\$ 317,389	\$ 321,608	\$ 307,252	\$ 309,378	\$ 1,261,756	\$ 1,157,875
United States %	81.9 %	82.0 %	80.5 %	83.1 %	82.9 %	81.9 %	81.9 %
Other %	18.1 %	18.0 %	19.5 %	16.9 %	17.1 %	18.1 %	18.1 %

(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)	December 31, 2019		September 30, 2019		June 30, 2019		March 31, 2019		December 31, 2018	
Insurance In Force (IIF) (1)										
U.S. primary mortgage insurance	\$ 287,150	68.7 %	\$ 284,496	69.7 %	\$ 279,297	69.1 %	\$ 276,699	70.9 %	\$ 276,538	72.1 %
Mortgage reinsurance	26,768	6.4 %	25,440	6.2 %	26,286	6.5 %	26,487	6.8 %	25,975	6.8 %
Other (2)	104,346	24.9 %	98,054	24.0 %	98,335	24.3 %	87,190	22.3 %	81,147	21.2 %
Total	\$ 418,264	100.0 %	\$ 407,990	100.0 %	\$ 403,918	100.0 %	\$ 390,376	100.0 %	\$ 383,660	100.0 %
Risk In Force (RIF) (3)										
U.S. primary mortgage insurance	\$ 73,388	91.9 %	\$ 72,916	92.0 %	\$ 71,760	91.8 %	\$ 71,114	92.2 %	\$ 70,995	92.3 %
Mortgage reinsurance	2,129	2.7 %	2,086	2.6 %	2,182	2.8 %	2,204	2.9 %	2,217	2.9 %
Other (2)	4,380	5.5 %	4,216	5.3 %	4,260	5.4 %	3,772	4.9 %	3,728	4.8 %
Total	\$ 79,897	100.0 %	\$ 79,218	100.0 %	\$ 78,202	100.0 %	\$ 77,090	100.0 %	\$ 76,940	100.0 %
Supplemental disclosures for U.S. primary mortgage insurance:										
Total RIF by credit quality (FICO score):										
>=740	\$ 42,301	57.6 %	\$ 41,975	57.6 %	\$ 41,333	57.6 %	\$ 41,053	57.7 %	\$ 41,066	57.8 %
680-739	25,240	34.4 %	25,013	34.3 %	24,488	34.1 %	24,122	33.9 %	23,954	33.7 %
620-679	5,444	7.4 %	5,501	7.5 %	5,494	7.7 %	5,476	7.7 %	5,485	7.7 %
<620	403	0.5 %	427	0.6 %	445	0.6 %	463	0.7 %	490	0.7 %
Total	\$ 73,388	100.0 %	\$ 72,916	100.0 %	\$ 71,760	100.0 %	\$ 71,114	100.0 %	\$ 70,995	100.0 %
Weighted average FICO score	743		743		743		743		743	
Total RIF by Loan-To-Value (LTV):										
95.01% and above	\$ 9,064	12.4 %	\$ 8,948	12.3 %	\$ 8,535	11.9 %	\$ 8,175	11.5 %	\$ 7,918	11.2 %
90.01% to 95.00%	40,136	54.7 %	40,086	55.0 %	39,777	55.4 %	39,500	55.5 %	39,370	55.5 %
85.01% to 90.00%	20,890	28.5 %	20,708	28.4 %	20,419	28.5 %	20,418	28.7 %	20,643	29.1 %
85.00% and below	3,298	4.5 %	3,174	4.4 %	3,029	4.2 %	3,021	4.2 %	3,064	4.3 %
Total	\$ 73,388	100.0 %	\$ 72,916	100.0 %	\$ 71,760	100.0 %	\$ 71,114	100.0 %	\$ 70,995	100.0 %
Weighted average LTV	93.0%		93.1%		93.1%		93.1%		93.0%	
Total RIF by State:										
Texas	\$ 5,678	7.7 %	\$ 5,599	7.7 %	\$ 5,509	7.7 %	\$ 5,488	7.7 %	\$ 5,491	7.7 %
California	5,187	7.1 %	4,984	6.8 %	4,736	6.6 %	4,574	6.4 %	4,505	6.3 %
Florida	3,887	5.3 %	3,821	5.2 %	3,699	5.2 %	3,601	5.1 %	3,541	5.0 %
Virginia	2,881	3.9 %	2,907	4.0 %	2,916	4.1 %	2,915	4.1 %	2,931	4.1 %
Georgia	2,753	3.8 %	2,667	3.7 %	2,599	3.6 %	2,565	3.6 %	2,573	3.6 %
Illinois	2,616	3.6 %	2,602	3.6 %	2,536	3.5 %	2,492	3.5 %	2,482	3.5 %
Minnesota	2,514	3.4 %	2,480	3.4 %	2,434	3.4 %	2,404	3.4 %	2,400	3.4 %
Washington	2,474	3.4 %	2,466	3.4 %	2,421	3.4 %	2,408	3.4 %	2,408	3.4 %
North Carolina	2,470	3.4 %	2,469	3.4 %	2,462	3.4 %	2,477	3.5 %	2,505	3.5 %
Maryland	2,437	3.3 %	2,443	3.4 %	2,420	3.4 %	2,404	3.4 %	2,407	3.4 %
Others	40,491	55.2 %	40,478	55.5 %	40,028	55.8 %	39,786	55.9 %	39,752	56.0 %
Total	\$ 73,388	100.0 %	\$ 72,916	100.0 %	\$ 71,760	100.0 %	\$ 71,114	100.0 %	\$ 70,995	100.0 %
Weighted average coverage (end of period RIF divided by IIF)	25.6%		25.6%		25.7%		25.7%		25.7%	
U.S. mortgage insurance total RIF, net of reinsurance (4)	\$ 58,512		\$ 57,768		\$ 56,562		\$ 55,957		\$ 55,755	
Analysts' persistency (5)	75.7%		78.6%		80.9%		81.3 %		81.5 %	
Risk-to-capital ratio -- Arch MI U.S. (6)	12.0:1		12.9:1		11.4:1		12.2:1		13.0:1	
PMIER sufficiency ratio -- Arch MI U.S. (7)	168%		154%		163%		146 %		141 %	

(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 December 31, 2019).

(7) Calculated as available assets divided by required assets as defined within PMIERs (estimate for December 31, 2019).

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

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

(U.S. Dollars in millions, except policy/loan/claim count)		Three Months Ended													
		December 31, 2019		September 30, 2019		June 30, 2019		March 31, 2019		December 31, 2018					
Supplemental disclosures for U.S. primary mortgage insurance:															
Total new insurance written (NIW) (1)	\$	24,051		\$	25,313		\$	17,161		\$	11,207		\$	16,741	
Total NIW by credit quality (FICO score):															
>=740	\$	14,793	61.5%	\$	15,204	60.1%	\$	9,862	57.5%	\$	6,350	56.7%	\$	9,358	55.9%
680-739		8,092	33.6%		8,725	34.5%		6,139	35.8%		4,041	36.1%		6,080	36.3%
620-679		1,166	4.8%		1,384	5.5%		1,160	6.8%		816	7.3%		1,303	7.8%
Total	\$	24,051	100.0%	\$	25,313	100.0%	\$	17,161	100.0%	\$	11,207	100.0%	\$	16,741	100.0%
Total NIW by LTV:															
95.01% and above	\$	2,260	9.4%	\$	3,182	12.6%	\$	2,530	14.7%	\$	1,808	16.1%	\$	2,672	16.0%
90.01% to 95.00%		10,059	41.8%		10,409	41.1%		7,497	43.7%		4,975	44.4%		7,452	44.5%
85.01% to 90.00%		7,839	32.6%		7,762	30.7%		5,026	29.3%		3,149	28.1%		4,841	28.9%
85.00% and below		3,893	16.2%		3,960	15.6%		2,108	12.3%		1,275	11.4%		1,776	10.6%
Total	\$	24,051	100.0%	\$	25,313	100.0%	\$	17,161	100.0%	\$	11,207	100.0%	\$	16,741	100.0%
Total NIW monthly vs. single:															
Monthly	\$	22,707	94.4%	\$	23,358	92.3%	\$	15,935	92.9%	\$	10,263	91.6%	\$	15,299	91.4%
Single		1,344	5.6%		1,955	7.7%		1,226	7.1%		944	8.4%		1,442	8.6%
Total	\$	24,051	100.0%	\$	25,313	100.0%	\$	17,161	100.0%	\$	11,207	100.0%	\$	16,741	100.0%
Total NIW purchase vs. refinance:															
Purchase	\$	16,476	68.5%	\$	19,068	75.3%	\$	14,992	87.4%	\$	10,289	91.8%	\$	15,868	94.8%
Refinance		7,575	31.5%		6,245	24.7%		2,169	12.6%		918	8.2%		873	5.2%
Total	\$	24,051	100.0%	\$	25,313	100.0%	\$	17,161	100.0%	\$	11,207	100.0%	\$	16,741	100.0%
Ending number of policies in force (PIF) (3)		1,307,884			1,304,263			1,292,215			1,286,877			1,289,295	
Rollforward of insured loans in default:															
Beginning delinquent number of loans		19,243			18,761			19,827			20,665			20,361	
Plus: new notices		10,289			10,111			8,906			9,711			10,052	
Less: cures		(8,724)			(8,970)			(9,201)			(9,706)			(8,785)	
Less: paid claims		(645)			(659)			(771)			(843)			(963)	
Ending delinquent number of loans (3)		20,163			19,243			18,761			19,827			20,665	
Ending percentage of loans in default (3)		1.54%			1.48%			1.45%			1.54%			1.60%	
Losses:															
Number of claims paid		645			659			771			843			963	
Total paid claims (in thousands)	\$	25,253			26,082			32,025			33,494			40,982	
Average per claim (in thousands)	\$	39.2			39.6			41.5			39.7			42.6	
Severity (2)		94.0%			95.6%			95.1%			98.9%			101.9%	
Average reserve per default (in thousands)	\$	13.3			14.7			16.1			16.6			17.4	

(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)

	December 31, 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	
<u>Policy year:</u>												
2009 and prior	57.8%	\$ 16,903	5.9%	3,900	5.3%	8.88%	73.4%	\$ 21,210	7.7%	4,900	6.9%	8.90%
2010	0.5%	348	0.1%	90	0.1%	3.97%	0.5%	646	0.2%	175	0.2%	2.62%
2011	0.7%	1,678	0.6%	464	0.6%	1.59%	0.9%	2,530	0.9%	701	1.0%	1.57%
2012	1.3%	6,293	2.2%	1,753	2.4%	0.89%	1.5%	9,650	3.5%	2,664	3.8%	0.78%
2013	3.0%	12,276	4.3%	3,433	4.7%	0.99%	3.5%	16,823	6.1%	4,676	6.6%	0.89%
2014	2.4%	13,714	4.8%	3,778	5.1%	1.16%	2.6%	18,274	6.6%	4,947	7.0%	0.97%
2015	3.2%	25,788	9.0%	6,880	9.4%	0.87%	3.3%	33,781	12.2%	8,849	12.5%	0.69%
2016	7.6%	40,898	14.2%	10,670	14.5%	1.03%	7.0%	52,324	18.9%	13,407	18.9%	0.77%
2017	9.9%	43,896	15.3%	11,262	15.3%	1.00%	6.0%	54,287	19.6%	13,793	19.4%	0.55%
2018	11.2%	51,776	18.0%	13,086	17.8%	0.86%	1.1%	67,013	24.2%	16,883	23.8%	0.15%
2019	2.4%	73,580	25.6%	18,072	24.6%	0.14%						
Total	100.0%	\$ 287,150	100.0%	\$ 73,388	100.0%	1.54%	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 \$278.7 million at December 31, 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					Year Ended	
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	December 31, 2019	December 31, 2018
Gross premiums written	\$ 1,842,071	\$ 2,043,292	\$ 1,829,829	\$ 1,980,453	\$ 1,599,085	\$ 7,695,645	\$ 6,534,423
Premiums ceded	(498,971)	(585,587)	(504,301)	(600,581)	(429,691)	(2,189,440)	(1,791,851)
Net premiums written	1,343,100	1,457,705	1,325,528	1,379,872	1,169,394	5,506,205	4,742,572
Change in unearned premiums	39,337	(145,514)	(13,119)	(157,100)	53,068	(276,396)	(89,459)
Net premiums earned	1,382,437	1,312,191	1,312,409	1,222,772	1,222,462	5,229,809	4,653,113
Other underwriting income (loss)	6,189	2,747	5,280	8,233	(603)	22,449	12,351
Losses and loss adjustment expenses	(710,267)	(706,241)	(656,127)	(607,682)	(698,505)	(2,680,317)	(2,448,851)
Acquisition expenses	(197,562)	(188,048)	(180,533)	(168,822)	(178,990)	(734,965)	(679,577)
Other operating expenses	(192,125)	(184,944)	(183,302)	(188,975)	(155,378)	(749,346)	(639,920)
Underwriting income	\$ 288,672	\$ 235,705	\$ 297,727	\$ 265,526	\$ 188,986	\$ 1,087,630	\$ 897,116
Underwriting Ratios							
Loss ratio	51.4 %	53.8 %	50.0 %	49.7 %	57.1 %	51.3 %	52.6 %
Acquisition expense ratio	14.3 %	14.3 %	13.8 %	13.8 %	14.6 %	14.1 %	14.6 %
Other operating expense ratio	13.9 %	14.1 %	14.0 %	15.5 %	12.7 %	14.3 %	13.8 %
Combined ratio	79.6 %	82.2 %	77.8 %	79.0 %	84.4 %	79.7 %	81.0 %
Catastrophic activity and prior year development:							
Current accident year catastrophic events, net of reinsurance and reinstatement premiums	2.2 %	5.2 %	0.5 %	0.6 %	9.7 %	2.2 %	4.2 %
Net (favorable) adverse development in prior year loss reserves, net of related adjustments	(4.0)%	(3.9)%	(2.7)%	(3.0)%	(6.1)%	(3.4)%	(5.7)%
Combined ratio excluding catastrophic activity and prior year development (1)	81.4 %	80.9 %	80.0 %	81.4 %	80.8 %	80.9 %	82.5 %
Net premiums written to gross premiums written	72.9 %	71.3 %	72.4 %	69.7 %	73.1 %	71.5 %	72.6 %

(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					Year Ended	
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	December 31, 2019	December 31, 2018
Components of losses and loss adjustment expenses incurred (1)							
Paid losses and loss adjustment expenses	\$ 627,929	\$ 508,364	\$ 494,368	\$ 430,724	\$ 579,106	\$ 2,061,385	\$ 1,981,957
Change in unpaid losses and loss adjustment expenses	82,338	197,877	161,759	176,958	119,399	618,932	466,894
Total losses and loss adjustment expenses	<u>\$ 710,267</u>	<u>\$ 706,241</u>	<u>\$ 656,127</u>	<u>\$ 607,682</u>	<u>\$ 698,505</u>	<u>\$ 2,680,317</u>	<u>\$ 2,448,851</u>
Estimated net (favorable) adverse development in prior year loss reserves, net of related adjustments (1)							
Net impact on underwriting results:							
Insurance	\$ (2,839)	\$ (3,934)	\$ (1,469)	\$ (1,651)	\$ (8,303)	\$ (9,893)	\$ (21,743)
Reinsurance	(19,081)	(14,716)	(11,251)	1,580	(33,479)	(43,468)	(134,681)
Mortgage	(32,763)	(33,031)	(22,797)	(36,622)	(32,667)	(125,213)	(106,589)
Total	<u>\$ (54,683)</u>	<u>\$ (51,681)</u>	<u>\$ (35,517)</u>	<u>\$ (36,693)</u>	<u>\$ (74,449)</u>	<u>\$ (178,574)</u>	<u>\$ (263,013)</u>
Impact on losses and loss adjustment expenses:							
Insurance	\$ (4,403)	\$ (4,354)	\$ (2,607)	\$ (4,426)	\$ (10,278)	\$ (15,790)	\$ (24,395)
Reinsurance	(20,058)	(15,309)	(12,697)	1,668	(34,596)	(46,396)	(138,474)
Mortgage	(32,763)	(33,031)	(22,803)	(36,622)	(32,667)	(125,219)	(107,615)
Total	<u>\$ (57,224)</u>	<u>\$ (52,694)</u>	<u>\$ (38,107)</u>	<u>\$ (39,380)</u>	<u>\$ (77,541)</u>	<u>\$ (187,405)</u>	<u>\$ (270,484)</u>
Impact on acquisition expenses:							
Insurance	\$ 1,564	\$ 420	\$ 1,138	\$ 2,775	\$ 1,975	\$ 5,897	\$ 2,652
Reinsurance	977	593	1,446	(88)	1,117	2,928	3,793
Mortgage	—	—	6	—	—	6	1,026
Total	<u>\$ 2,541</u>	<u>\$ 1,013</u>	<u>\$ 2,590</u>	<u>\$ 2,687</u>	<u>\$ 3,092</u>	<u>\$ 8,831</u>	<u>\$ 7,471</u>
Impact on combined ratio:							
Insurance	(0.4)%	(0.6)%	(0.2)%	(0.3)%	(1.5)%	(0.4)%	(1.0)%
Reinsurance	(4.9)%	(4.0)%	(3.1)%	0.5 %	(9.6)%	(3.0)%	(10.7)%
Mortgage	(9.4)%	(9.6)%	(6.5)%	(11.3)%	(10.4)%	(9.2)%	(9.0)%
Total	(4.0)%	(3.9)%	(2.7)%	(3.0)%	(6.1)%	(3.4)%	(5.7)%
Impact on loss ratio:							
Insurance	(0.7)%	(0.7)%	(0.4)%	(0.8)%	(1.8)%	(0.7)%	(1.1)%
Reinsurance	(5.2)%	(4.2)%	(3.5)%	0.5 %	(9.9)%	(3.2)%	(11.0)%
Mortgage	(9.4)%	(9.6)%	(6.5)%	(11.3)%	(10.4)%	(9.2)%	(9.1)%
Total	(4.1)%	(4.0)%	(2.9)%	(3.2)%	(6.3)%	(3.6)%	(5.8)%
Impact on acquisition expense ratio:							
Insurance	0.3 %	0.1 %	0.2 %	0.5 %	0.3 %	0.3 %	0.1 %
Reinsurance	0.3 %	0.2 %	0.4 %	0.0 %	0.3 %	0.2 %	0.3 %
Mortgage	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.1 %
Total	0.1 %	0.1 %	0.2 %	0.2 %	0.2 %	0.2 %	0.1 %
Estimated net losses incurred from current accident year catastrophic events (2)							
Insurance	\$ 5,531	\$ 26,085	\$ 2,565	\$ 54	\$ 33,320	\$ 34,235	\$ 74,598
Reinsurance	24,831	41,948	4,589	7,824	84,846	79,192	118,678
Total	<u>\$ 30,362</u>	<u>\$ 68,033</u>	<u>\$ 7,154</u>	<u>\$ 7,878</u>	<u>\$ 118,166</u>	<u>\$ 113,427</u>	<u>\$ 193,276</u>
Impact on combined ratio:							
Insurance	0.9 %	4.3 %	0.4 %	0.0 %	6.0 %	1.4 %	3.4 %
Reinsurance	6.4 %	11.5 %	1.2 %	2.3 %	24.3 %	5.4 %	9.4 %
Total	2.2 %	5.2 %	0.5 %	0.6 %	9.7 %	2.2 %	4.2 %

(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)	December 31, 2019		September 30, 2019		June 30, 2019		March 31, 2019		December 31, 2018	
Investable assets (1) (2):										
Fixed maturities available for sale, at fair value	\$ 16,187,651	72.6 %	\$ 15,831,411	73.4 %	\$ 15,184,279	73.1 %	\$ 14,627,478	72.9 %	\$ 14,305,659	73.1 %
Fixed maturities—fair value option (3)	337,860	1.5 %	345,588	1.6 %	348,298	1.7 %	366,470	1.8 %	322,743	1.6 %
Fixed maturities pledged under securities lending agreements, at fair value	368,510	1.7 %	409,795	1.9 %	427,217	2.1 %	388,732	1.9 %	253,500	1.3 %
Total fixed maturities	<u>16,894,021</u>	<u>75.8 %</u>	<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>
Equity securities, at fair value	773,588	3.5 %	506,998	2.4 %	606,240	2.9 %	430,885	2.1 %	306,693	1.6 %
Equity securities—fair value option (3)	42,896	0.2 %	41,436	0.2 %	47,367	0.2 %	48,587	0.2 %	47,255	0.2 %
Equity securities pledged under securities lending agreements, at fair value	11,358	0.1 %	10,620	0.0 %	13,293	0.1 %	15,530	0.1 %	14,895	0.1 %
Total equity securities	<u>827,842</u>	<u>3.7 %</u>	<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>
Other investments—fair value option (3)	1,336,920	6.0 %	1,369,554	6.4 %	1,327,134	6.4 %	1,313,816	6.6 %	1,261,525	6.4 %
Total other investments	<u>1,336,920</u>	<u>6.0 %</u>	<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>
Investments accounted for using the equity method (4)	1,660,396	7.5 %	1,575,832	7.3 %	1,581,972	7.6 %	1,563,779	7.8 %	1,493,791	7.6 %
Short-term investments available for sale, at fair value	956,546	4.3 %	751,989	3.5 %	821,961	4.0 %	706,214	3.5 %	955,880	4.9 %
Short-term investments—fair value option (3)	47,711	0.2 %	33,369	0.2 %	25,289	0.1 %	25,429	0.1 %	40,046	0.2 %
Total short-term investments	<u>1,004,257</u>	<u>4.5 %</u>	<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>
Cash	623,793	2.8 %	799,709	3.7 %	536,339	2.6 %	576,799	2.9 %	583,027	3.0 %
Securities transactions entered into but not settled at the balance sheet date	(61,553)	(0.3)%	(110,213)	(0.5)%	(142,726)	(0.7)%	(8,339)	0.0%	(18,153)	(0.1)%
Total investable assets held by the Company	<u>\$ 22,285,676</u>	<u>100.0 %</u>	<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>
Average effective duration (in years)	3.40		3.64		3.52		3.47		3.38	
Average S&P/Moody's credit ratings (5)	AA/Aa2		AA/Aa2		AA/Aa2		AA/Aa2		AA/Aa2	
Embedded book yield (before investment expenses)	2.55%		2.70%		2.87%		2.95%		2.89%	

(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	\$ 102,437	\$ 80,390	\$ 68,977	\$ 56,301	\$ 63,529
Investments accounted for using the fair value option	1,898,090	2,048,296	1,972,947	2,215,321	2,312,002
Fixed maturities available for sale, at fair value	706,875	639,112	697,453	549,834	393,351
Equity securities, at fair value	65,337	43,487	64,703	65,010	32,206
Securities sold but not yet purchased	(66,257)	(65,736)	(48,823)	(28,737)	(7,790)
Securities transactions entered into but not settled at the balance sheet date	(1,893)	(15,302)	13,209	(33,011)	(35,635)
Total investable assets included in 'other' segment	<u>\$ 2,704,589</u>	<u>\$ 2,730,247</u>	<u>\$ 2,768,466</u>	<u>\$ 2,824,718</u>	<u>\$ 2,757,663</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					Year Ended	
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	December 31, 2019	December 31, 2018
Composition of net investment income (1):							
Fixed maturities	\$ 108,885	\$ 109,953	\$ 111,335	\$ 110,651	\$ 108,791	\$ 440,824	\$ 403,449
Equity securities (dividends)	4,134	3,581	3,494	2,246	2,242	13,455	12,650
Short-term investments	3,464	3,432	3,448	4,298	5,211	14,642	17,802
Other (2)	19,211	24,170	20,115	22,944	14,445	86,440	70,946
Gross investment income	135,694	141,136	138,392	140,139	130,689	555,361	504,847
Investment expenses	(15,788)	(14,262)	(15,354)	(18,890)	(15,063)	(64,294)	(66,889)
Net investment income	\$ 119,906	\$ 126,874	\$ 123,038	\$ 121,249	\$ 115,626	\$ 491,067	\$ 437,958
Per share	\$ 0.29	\$ 0.31	\$ 0.30	\$ 0.30	\$ 0.28	\$ 1.19	\$ 1.06
Investment income yield, at amortized cost (1) (3):							
Pre-tax	2.36%	2.58%	2.62%	2.67%	2.49%	2.62%	2.36%
After-tax	2.07%	2.31%	2.37%	2.41%	2.21%	2.35%	2.14%
Total return on investments (1) (4)	1.07%	1.00%	2.37%	2.70%	0.51%	7.30%	0.33%

(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 December 31, 2019							
Corporates	\$ 6,561,354	\$ 189,917	\$ (12,752)	\$ 177,165	\$ 6,384,189	102.8%	38.8%
U.S. government and government agencies	4,632,947	34,892	(9,997)	24,895	4,608,052	100.5%	27.4%
Municipal bonds	880,119	24,582	(2,213)	22,369	857,750	102.6%	5.2%
Non-U.S. government securities	1,995,813	45,019	(19,297)	25,722	1,970,091	101.3%	11.8%
Asset-backed securities	1,547,744	23,403	(4,028)	19,375	1,528,369	101.3%	9.2%
Commercial mortgage-backed securities	734,244	14,951	(2,330)	12,621	721,623	101.7%	4.3%
Residential mortgage-backed securities	541,800	9,651	(887)	8,764	533,036	101.6%	3.2%
Total	<u>\$ 16,894,021</u>	<u>\$ 342,415</u>	<u>\$ (51,504)</u>	<u>\$ 290,911</u>	<u>\$ 16,603,110</u>	<u>101.8%</u>	<u>100.0%</u>
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	<u>\$ 14,881,902</u>	<u>\$ 74,759</u>	<u>\$ (199,882)</u>	<u>\$ (125,123)</u>	<u>\$ 15,007,025</u>	<u>99.2%</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.

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)

(U.S. Dollars in thousands)	December 31, 2019		September 30, 2019		June 30, 2019		March 31, 2019		December 31, 2018	
Credit quality distribution of total fixed maturities (2) (3):										
U.S. government and government agencies (4)	\$ 5,215,489	30.9 %	\$ 5,403,271	32.6 %	\$ 5,030,769	31.5 %	\$ 4,895,315	31.8 %	\$ 4,194,676	28.2 %
AAA	3,392,341	20.1 %	3,240,708	19.5 %	3,325,260	20.8 %	3,096,530	20.1 %	3,551,039	23.9 %
AA	2,115,828	12.5 %	1,879,728	11.3 %	1,831,265	11.5 %	1,886,690	12.3 %	2,129,336	14.3 %
A	3,849,458	22.8 %	3,648,581	22.0 %	3,439,690	21.6 %	3,213,166	20.9 %	3,069,656	20.6 %
BBB	1,495,467	8.9 %	1,576,052	9.5 %	1,465,219	9.2 %	1,437,907	9.3 %	1,251,205	8.4 %
BB	355,803	2.1 %	362,117	2.2 %	361,389	2.3 %	363,887	2.4 %	275,201	1.8 %
B	216,663	1.3 %	210,824	1.3 %	226,885	1.4 %	231,544	1.5 %	183,614	1.2 %
Lower than B	56,865	0.3 %	61,205	0.4 %	60,858	0.4 %	60,577	0.4 %	61,271	0.4 %
Not rated	196,107	1.2 %	204,308	1.2 %	218,459	1.4 %	197,064	1.3 %	165,904	1.1 %
Total fixed maturities, at fair value	\$ 16,894,021	100.0 %	\$ 16,586,794	100.0 %	\$ 15,959,794	100.0 %	\$ 15,382,680	100.0 %	\$ 14,881,902	100.0 %
Maturity profile of total fixed maturities (2):										
Due in one year or less	\$ 443,914	2.6 %	\$ 571,738	3.4 %	\$ 457,207	2.9 %	\$ 465,467	3.0 %	\$ 328,296	2.2 %
Due after one year through five years	9,875,925	58.5 %	9,924,224	59.8 %	9,559,981	59.9 %	9,261,391	60.2 %	8,553,446	57.5 %
Due after five years through ten years	3,296,839	19.5 %	3,052,774	18.4 %	2,992,411	18.7 %	2,932,045	19.1 %	2,937,729	19.7 %
Due after 10 years	453,555	2.7 %	229,085	1.4 %	245,868	1.5 %	202,377	1.3 %	243,523	1.6 %
	14,070,233	83.3 %	13,777,821	83.1 %	13,255,467	83.1 %	12,861,280	83.6 %	12,062,994	81.1 %
Mortgage-backed securities	541,800	3.2 %	528,227	3.2 %	513,760	3.2 %	492,255	3.2 %	535,763	3.6 %
Commercial mortgage-backed securities	734,244	4.3 %	754,306	4.5 %	686,707	4.3 %	610,754	4.0 %	729,442	4.9 %
Asset-backed securities	1,547,744	9.2 %	1,526,440	9.2 %	1,503,860	9.4 %	1,418,391	9.2 %	1,553,703	10.4 %
Total fixed maturities, at fair value	\$ 16,894,021	100.0 %	\$ 16,586,794	100.0 %	\$ 15,959,794	100.0 %	\$ 15,382,680	100.0 %	\$ 14,881,902	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.

(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)	December 31, 2019		September 30, 2019		June 30, 2019		March 31, 2019		December 31, 2018	
Sector:										
Industrials	\$ 3,639,891	55.5 %	\$ 3,588,041	55.2 %	\$ 3,311,161	52.7 %	\$ 3,212,269	53.1 %	\$ 3,125,524	54.5 %
Financials	2,645,393	40.3 %	2,612,883	40.2 %	2,671,207	42.5 %	2,543,207	42.0 %	2,269,651	39.6 %
Utilities	224,615	3.4 %	237,042	3.6 %	245,068	3.9 %	223,399	3.7 %	228,676	4.0 %
Covered bonds	3,520	0.1 %	2,543	0.0 %	2,461	0.0 %	7,713	0.1 %	21,301	0.4 %
All other (2)	47,935	0.7 %	54,145	0.8 %	52,000	0.8 %	67,526	1.1 %	90,374	1.6 %
Total fixed maturities, at fair value	<u>\$ 6,561,354</u>	<u>100.0 %</u>	<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>
Credit quality distribution (3):										
AAA	\$ 95,559	1.5 %	\$ 95,340	1.5 %	\$ 91,266	1.5 %	\$ 135,630	2.2 %	\$ 166,052	2.9 %
AA	1,035,817	15.8 %	1,021,056	15.7 %	1,053,860	16.8 %	1,083,024	17.9 %	1,248,479	21.8 %
A	3,392,134	51.7 %	3,240,957	49.9 %	3,089,233	49.2 %	2,874,706	47.5 %	2,685,973	46.8 %
BBB	1,355,868	20.7 %	1,450,372	22.3 %	1,344,247	21.4 %	1,286,351	21.2 %	1,101,579	19.2 %
BB	334,264	5.1 %	339,952	5.2 %	334,068	5.3 %	336,354	5.6 %	253,253	4.4 %
B	207,713	3.2 %	201,352	3.1 %	217,324	3.5 %	217,043	3.6 %	167,205	2.9 %
Lower than B	22,233	0.3 %	26,969	0.4 %	22,758	0.4 %	25,901	0.4 %	26,645	0.5 %
Not rated	117,766	1.8 %	118,656	1.8 %	129,141	2.1 %	95,105	1.6 %	86,340	1.5 %
Total fixed maturities, at fair value	<u>\$ 6,561,354</u>	<u>100.0 %</u>	<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>

(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 December 31, 2019 (1):

(U.S. Dollars in thousands)	Fair Value	% of Asset Class	% of Investable Assets	Credit Quality (2)
Issuer:				
Bank of America Corporation	\$ 272,554	4.2%	1.2%	A-/A2
Apple Inc.	202,082	3.1%	0.9%	AA+/Aa1
Citigroup Inc.	198,996	3.0%	0.9%	A/A1
JPMorgan Chase & Co.	198,863	3.0%	0.9%	A-/A2
Wells Fargo & Company	197,376	3.0%	0.9%	A-/A1
Morgan Stanley	144,345	2.2%	0.6%	BBB+/A3
HSBC Holdings plc	135,564	2.1%	0.6%	A/A2
BP p.l.c.	115,446	1.8%	0.5%	A-/A1
Nestlé S.A.	115,138	1.8%	0.5%	AA-/Aa3
The Goldman Sachs Group, Inc.	114,798	1.7%	0.5%	BBB+/A3
Total	<u>\$ 1,695,162</u>	<u>25.8%</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 December 31, 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	\$ 503,929	\$ 7,424	\$ 346	\$ —	\$ —	\$ 30,101	\$ 541,800
Commercial mortgage-backed securities	78,612	579,590	21,174	7,325	21,335	26,208	734,244
Asset-backed securities	—	1,120,769	106,583	218,551	37,546	64,295	1,547,744
Total	<u>\$ 582,541</u>	<u>\$ 1,707,783</u>	<u>\$ 128,103</u>	<u>\$ 225,876</u>	<u>\$ 58,881</u>	<u>\$ 120,604</u>	<u>\$ 2,823,788</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 13% 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 ownership of Watford's outstanding common equity:

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

	Three Months Ended					Year Ended	
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	December 31, 2019	December 31, 2018
Net income available to Arch common shareholders	\$ 315,981	\$ 382,050	\$ 458,551	\$ 438,125	\$ 126,091	\$ 1,594,707	\$ 713,616
Net realized (gains) losses	(33,610)	(79,122)	(124,637)	(115,644)	77,037	(353,013)	297,755
Net impairment losses recognized in earnings	644	1,163	49	1,309	1,705	3,165	2,829
Equity in net (income) loss of investment funds accounted for using the equity method	(27,139)	(17,130)	(32,536)	(46,867)	6,882	(123,672)	(45,641)
Net foreign exchange (gains) losses	39,832	(30,160)	6,054	(4,994)	(20,869)	10,732	(59,890)
Transaction costs and other	9,081	1,995	2,178	1,190	3,548	14,444	12,377
Loss on redemption of preferred shares	—	—	—	—	—	—	2,710
Income tax expense (benefit) (1)	3,568	2,156	7,774	2,778	(5,223)	16,276	(14,566)
After-tax operating income available to Arch common shareholders	\$ 308,357	\$ 260,952	\$ 317,433	\$ 275,897	\$ 189,171	\$ 1,162,639	\$ 909,190
<u>Diluted per common share results:</u>							
Net income available to Arch common shareholders	\$ 0.76	\$ 0.92	\$ 1.12	\$ 1.07	\$ 0.31	\$ 3.87	\$ 1.73
Net realized (gains) losses	(0.08)	(0.19)	(0.31)	(0.29)	0.18	(0.87)	0.72
Net impairment losses recognized in earnings	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Equity in net (income) loss of investment funds accounted for using the equity method	(0.07)	(0.04)	(0.08)	(0.11)	0.02	(0.30)	(0.11)
Net foreign exchange (gains) losses	0.10	(0.07)	0.01	(0.01)	(0.05)	0.03	(0.15)
Transaction costs and other	0.02	0.00	0.01	0.00	0.01	0.04	0.03
Loss on redemption of preferred shares	—	—	—	—	—	—	0.01
Income tax expense (benefit) (1)	0.01	0.01	0.02	0.01	(0.01)	0.04	(0.04)
After-tax operating income available to Arch common shareholders	\$ 0.74	\$ 0.63	\$ 0.77	\$ 0.67	\$ 0.46	\$ 2.82	\$ 2.20
Weighted average common shares and common share equivalents outstanding - diluted	414,124,920	413,180,201	410,899,483	408,971,029	410,112,097	411,609,478	412,906,478
Beginning common shareholders' equity	\$ 10,378,096	\$ 9,977,352	\$ 9,334,596	\$ 8,659,827	\$ 8,575,148	\$ 8,659,827	\$ 8,324,047
Ending common shareholders' equity	10,717,371	10,378,096	9,977,352	9,334,596	8,659,827	10,717,371	8,659,827
Average common shareholders' equity	\$ 10,547,734	\$ 10,177,724	\$ 9,655,974	\$ 8,997,212	\$ 8,617,488	\$ 9,688,599	\$ 8,491,937
Annualized return on average common equity	12.0%	15.0%	19.0%	19.5%	5.9%	16.5%	8.4%
Annualized operating return on average common equity	11.7%	10.3%	13.1%	12.3%	8.8%	12.0%	10.7%

- (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					Year Ended	
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	December 31, 2019	December 31, 2018
Arch Operating Income Components (1):							
Income before income taxes	\$ 355,837	\$ 430,554	\$ 511,883	\$ 489,163	\$ 182,007	\$ 1,787,437	\$ 877,904
Net realized (gains) losses	(32,480)	(81,177)	(125,112)	(112,433)	66,015	(351,202)	284,429
Net impairment losses recognized in earnings	644	1,163	49	1,309	1,705	3,165	2,829
Equity in net (income) loss of investment funds accounted for using the equity method	(27,139)	(17,130)	(32,536)	(46,867)	6,882	(123,672)	(45,641)
Net foreign exchange (gains) losses	38,031	(29,794)	6,190	(5,175)	(20,409)	9,252	(58,711)
Transaction costs and other	9,081	1,995	2,178	1,190	2,557	14,444	11,386
Pre-tax operating income	343,974	305,611	362,652	327,187	238,757	1,339,424	1,072,196
Arch share of 'other' segment operating income (loss) (2)	(1,450)	1,704	1,863	2,222	1,053	4,339	7,133
Pre-tax operating income available to Arch (b)	342,524	307,315	364,515	329,409	239,810	1,343,763	1,079,329
Income tax expense (a)	(23,764)	(35,960)	(36,679)	(43,109)	(40,236)	(139,512)	(128,494)
After-tax operating income available to Arch	318,760	271,355	327,836	286,300	199,574	1,204,251	950,835
Preferred dividends	(10,403)	(10,403)	(10,403)	(10,403)	(10,403)	(41,612)	(41,645)
After-tax operating income available to Arch common shareholders	\$ 308,357	\$ 260,952	\$ 317,433	\$ 275,897	\$ 189,171	\$ 1,162,639	\$ 909,190
Effective tax rate on pre-tax operating income (loss) available to Arch (a)/(b)	6.9%	11.7%	10.1%	13.1%	16.8%	10.4%	11.9%

(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					Year Ended	
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	December 31, 2019	December 31, 2018
Balances in 'other' segment:							
Underwriting income (loss)	\$ (37,251)	\$ (4,443)	\$ (4,593)	\$ (5,378)	\$ (22,031)	\$ (51,665)	\$ (23,118)
Net investment income	34,357	34,614	32,000	35,700	41,591	136,671	125,675
Interest expense	(7,558)	(8,091)	(5,905)	(5,583)	(5,386)	(27,137)	(19,465)
Preferred dividends	(1,131)	(6,600)	(4,590)	(4,588)	(4,588)	(16,909)	(18,357)
Pre-tax operating income (loss) available to common shareholders	(11,583)	15,480	16,912	20,151	9,586	40,960	64,735
Arch ownership	13%	11%	11%	11%	11%	11%	11%
Arch share of 'Other' segment operating income (loss) (3)	\$ (1,450)	\$ 1,704	\$ 1,863	\$ 2,222	\$ 1,053	\$ 4,339	\$ 7,133

(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)

	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 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	(15,791)	(15,963)	(16,135)	(16,306)	(16,472)
Revolving credit agreement borrowings, due October 26, 2021 (variable)	—	—	—	—	—
Total debt	\$ 1,734,209	\$ 1,734,037	\$ 1,733,865	\$ 1,733,694	\$ 1,733,528
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)	10,717,371	10,378,096	9,977,352	9,334,596	8,659,827
Total shareholders' equity available to Arch	\$ 11,497,371	\$ 11,158,096	\$ 10,757,352	\$ 10,114,596	\$ 9,439,827
Total capital available to Arch	\$ 13,231,580	\$ 12,892,133	\$ 12,491,217	\$ 11,848,290	\$ 11,173,355
Common shares outstanding, net of treasury shares (b)	405,619,201	405,230,531	404,887,534	403,738,764	402,454,834
Book value per common share (4) (a)/(b)	\$ 26.42	\$ 25.61	\$ 24.64	\$ 23.12	\$ 21.52
Leverage ratios:					
Senior notes/total capital available to Arch	13.1%	13.5%	13.9%	14.6%	15.5%
Revolving credit agreement borrowings/total capital available to Arch	—%	—%	—%	—%	—%
Debt/total capital available to Arch	13.1%	13.5%	13.9%	14.6%	15.5%
Preferred/total capital available to Arch	5.9%	6.1%	6.2%	6.6%	7.0%
Debt and preferred/total capital available to Arch	19.0%	19.5%	20.1%	21.2%	22.5%

(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
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018
Effect of share repurchases:					
Aggregate cost of shares repurchased	\$ —	\$ —	\$ —	\$ 2,871	\$ 98,233
Shares repurchased	—	—	—	110,598	3,623,534
Average price per share repurchased	\$ —	\$ —	\$ —	\$ 25.96	\$ 27.11
Remaining share repurchase authorization (1)					\$ 1,000,000

(1) Repurchases under the share repurchase authorization may be effected from time to time in open market or privately negotiated transactions through December 31, 2021.