



Athene Holding Ltd.
3Q'19 Earnings Presentation

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All information is as of the dates indicated herein.

Athene 3Q'19 Financial Results Highlights

Record organic deposits drive robust 20% year-over-year growth in total invested assets

Earnings

- Adjusted operating income available to common shareholders of \$243 million or \$1.34 per share
- Adjusted operating income available to common shareholders excluding notable items of \$305 million or \$1.67 per share
- Operating expenses as a % of average invested assets of 0.27%, improving 4 basis points, or 13%, year-over-year
- Adjusted operating ROA excluding notable items of 1.03%

Assets

- Total invested assets of \$121.1 billion, up 20% year-over-year
- Consolidated net investment earned rate (NIER) of 4.35%
 - Fixed income and other NIER: 4.11%
 - Alternatives NIER: 9.26%
- Retirement Services net investment spread ex. notable items of 1.35%

Liabilities

- Record quarterly organic deposits of \$5.6 billion, up 72% year-over-year
 - Pension Risk Transfer: \$2.6 billion
 - Retail: \$1.9 billion
 - Flow Reinsurance: \$609 million
 - Funding Agreements: \$503 million

Capital

- Consolidated and Retirement Services adjusted operating ROEs ex. notables of 13.3% and 16.7%, respectively
- Adjusted book value per common share of \$50.74, up 11% year-over-year
- Available capital of ~\$4.3 billion; ~\$1.8 billion of excess capital and ~\$2.5 billion of untapped debt capacity
- ADIP has closed on \$3bn of total third-party capital commitments to date for investments into ACRA¹

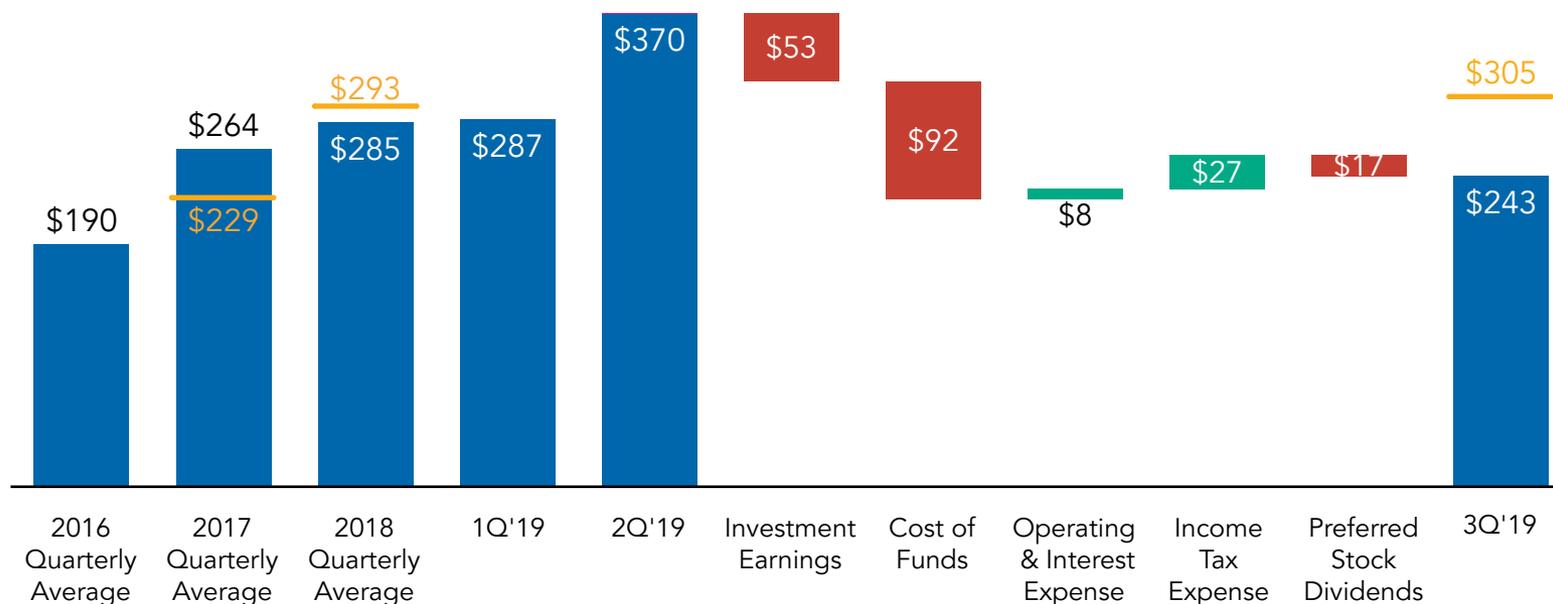
¹ Apollo/Athene Dedicated Investment Program ("ADIP") is the investment fund managed by Apollo Global Management that will help capitalize the Athene Co-Invest Reinsurance Affiliate ("ACRA").

Adjusted Operating Income Rollforward

Sequential decrease in AOI primarily driven by a higher cost of funds including the impact of unlocking, and normalizing investment income from Alts and lower floating rate income

(\$ in millions)

— Adjusted operating income ex. notables¹

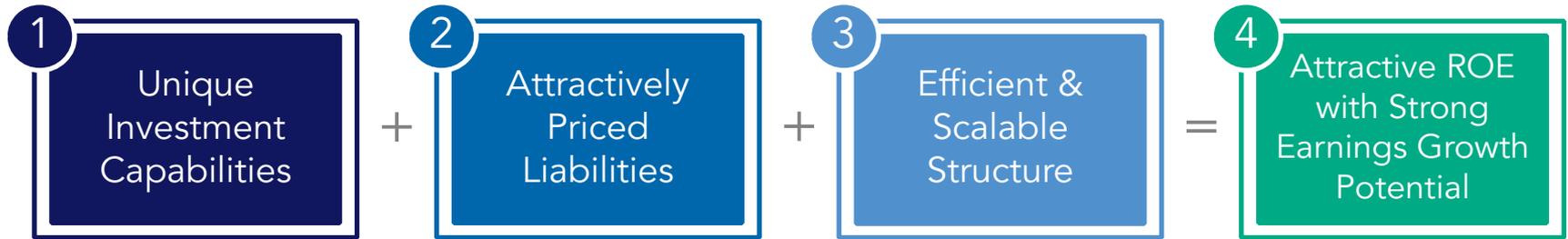


AOI Per Common Share	2016 Quarterly Average	2017 Quarterly Average	2018 Quarterly Average	1Q'19	2Q'19	Investment Earnings	Cost of Funds	Operating & Interest Expense	Income Tax Expense	Preferred Stock Dividends	3Q'19
	\$1.00	\$1.35	\$1.46	\$1.50	\$1.95	(\$0.29)	(\$0.50)	\$0.04	\$0.15	(\$0.09)	\$1.34

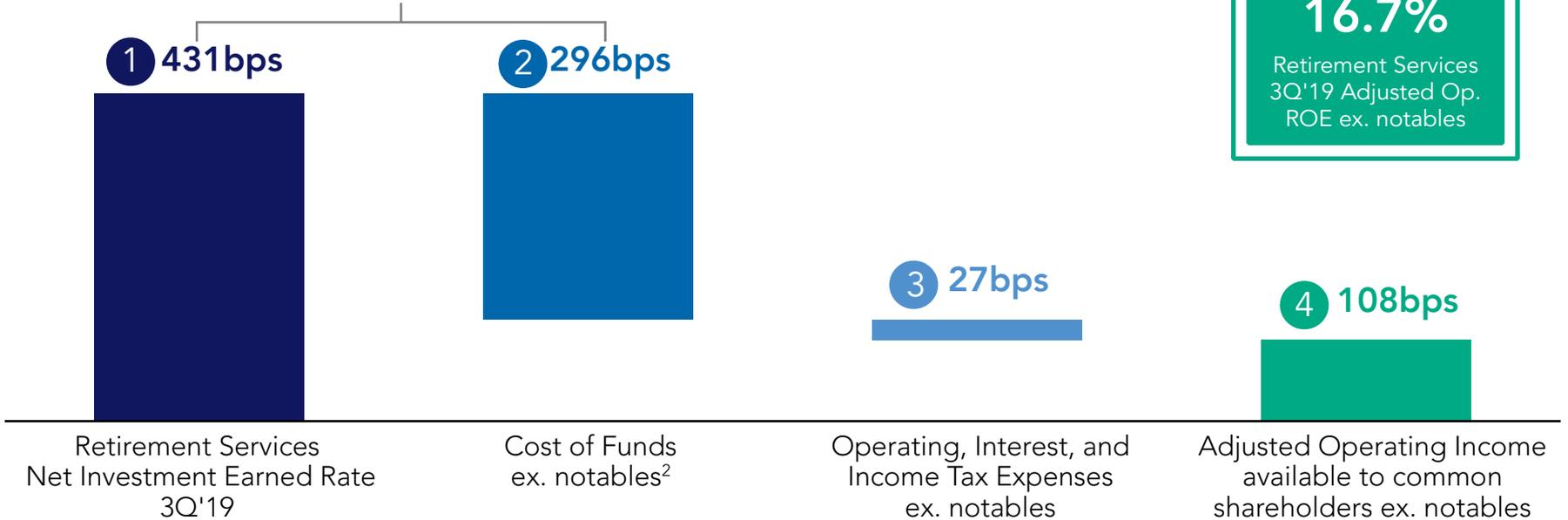
Note: Components within the AOI per common share rollforward may not sum due to other factors such as changes in share count. In 3Q'19, approximately \$0.08 of share repurchase accretion is included within total adjusted operating income available to common shareholders per common share. ¹ Reconciliations of quarterly adjusted operating income available to common shareholders excluding notable items can be found on slide 25 of this presentation.

Straightforward & Scalable Net Investment Spread Model

Achieving targeted mid-to-high teen adjusted operating ROE in Retirement Services



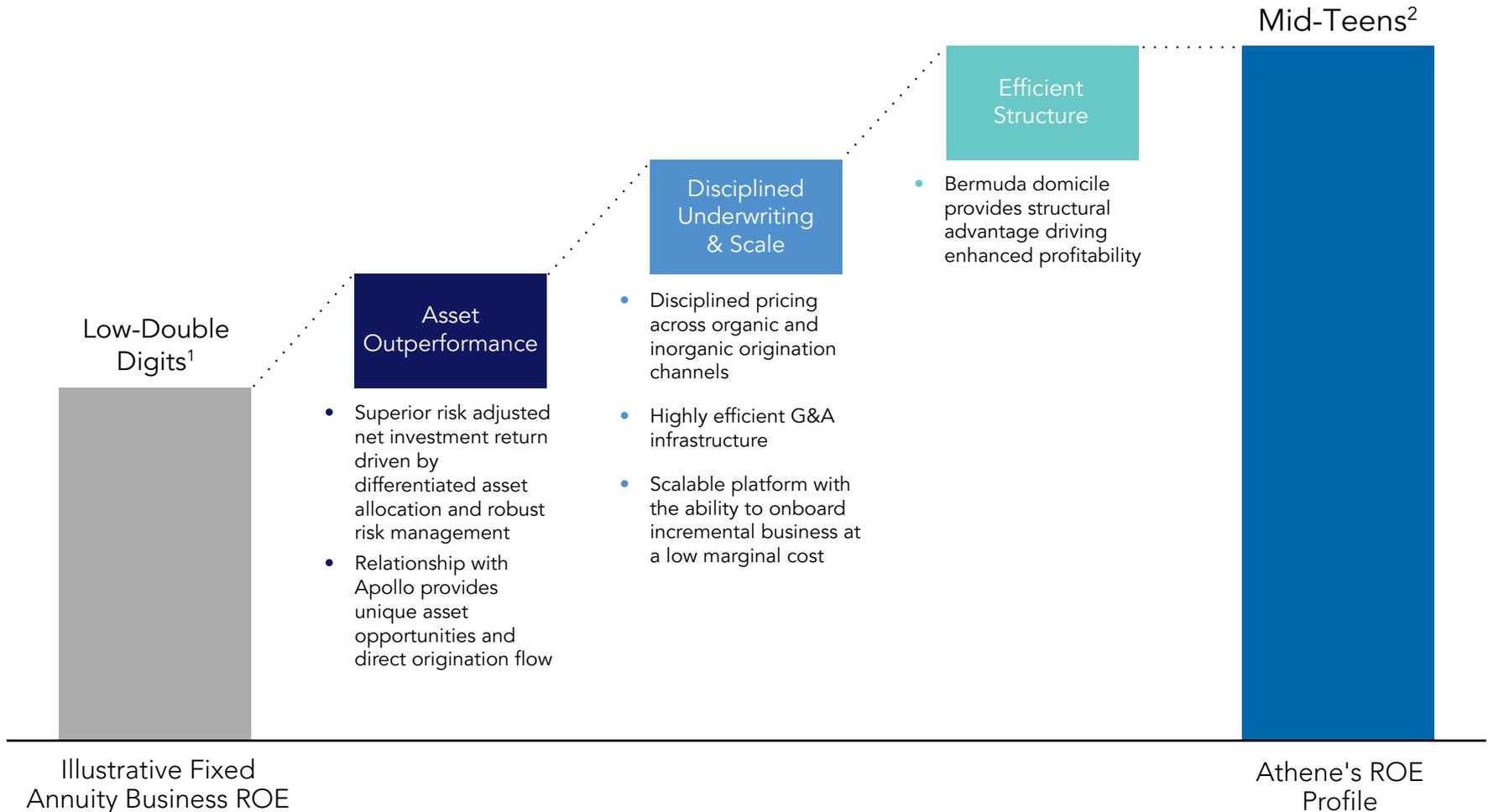
Net Investment Spread
ex-notables of 1.35%¹



¹ Net investment spread based on net investment earned rate less cost of funds. ² Cost of funds is calculated by dividing total liability costs, which includes cost of crediting on both deferred annuities and institutional products as well as other liability costs, by average invested assets for the relevant period. For additional information regarding cost of funds, see Non-GAAP Measures and Definitions.

Athene's Model Drives Stronger Returns for Shareholders

Numerous fundamental advantages drive sustainable mid-teens ROE

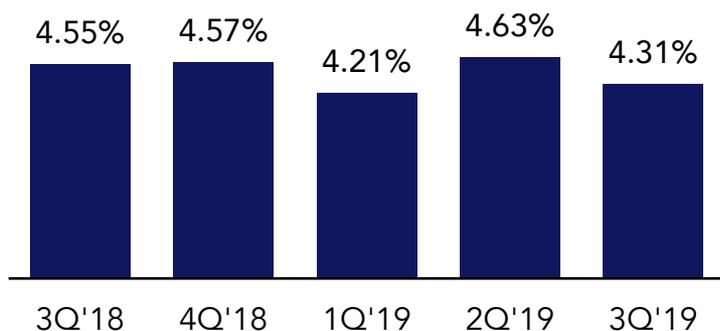


1 Illustrative ROE assumes return on assets (ROA) of 90 basis points, assuming 12x operating leverage. 2 ROE assumes ROA of 120 basis points, assuming 12x operating leverage and no financial leverage.

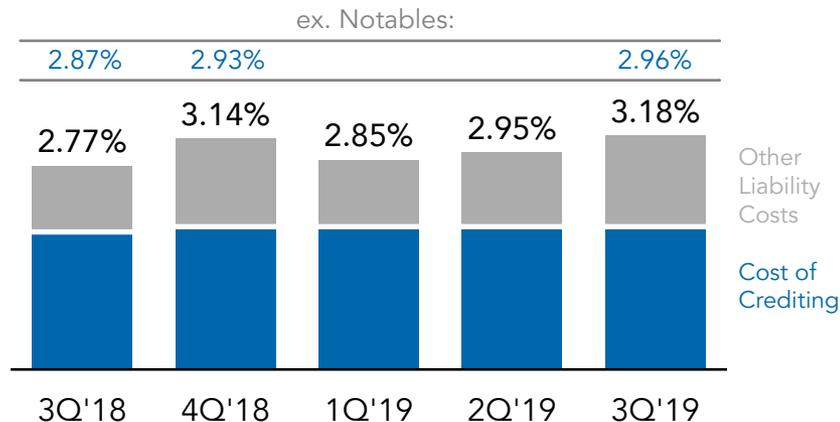
Net Investment Spread Metrics – Retirement Services

Sequential changes in spread metrics impacted by annual unlocking and unfavorable equity market and policyholder behavior, while expenses reflect scale benefits

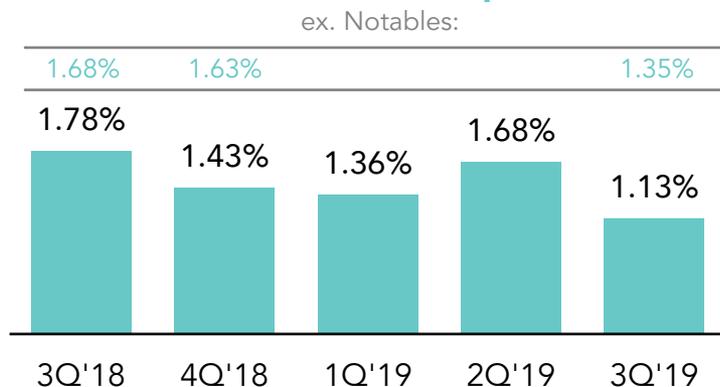
Net Investment Earned Rate¹



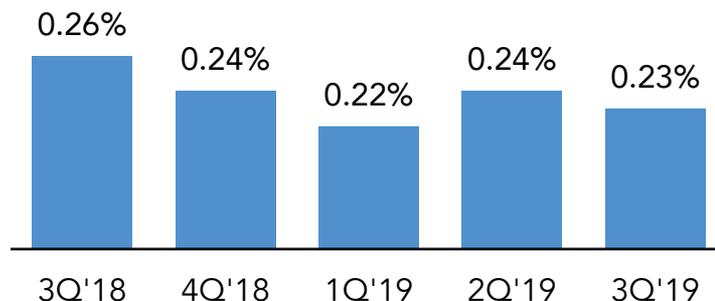
Cost of Funds²



Net Investment Spread³



Operating Expenses⁴



Note: Interim periods are annualized. 1 Net investment earned rate is calculated by dividing net investment earnings by average invested assets for the relevant period. 2 Cost of funds is calculated by dividing total liability costs, which includes cost of crediting on both deferred annuities and institutional products as well as other liability costs, by average invested assets for the relevant period. 3 Net investment spread based on net investment earned rate less cost of funds. 4 Operating expenses are calculated by dividing operating expenses by average invested assets for the relevant period.

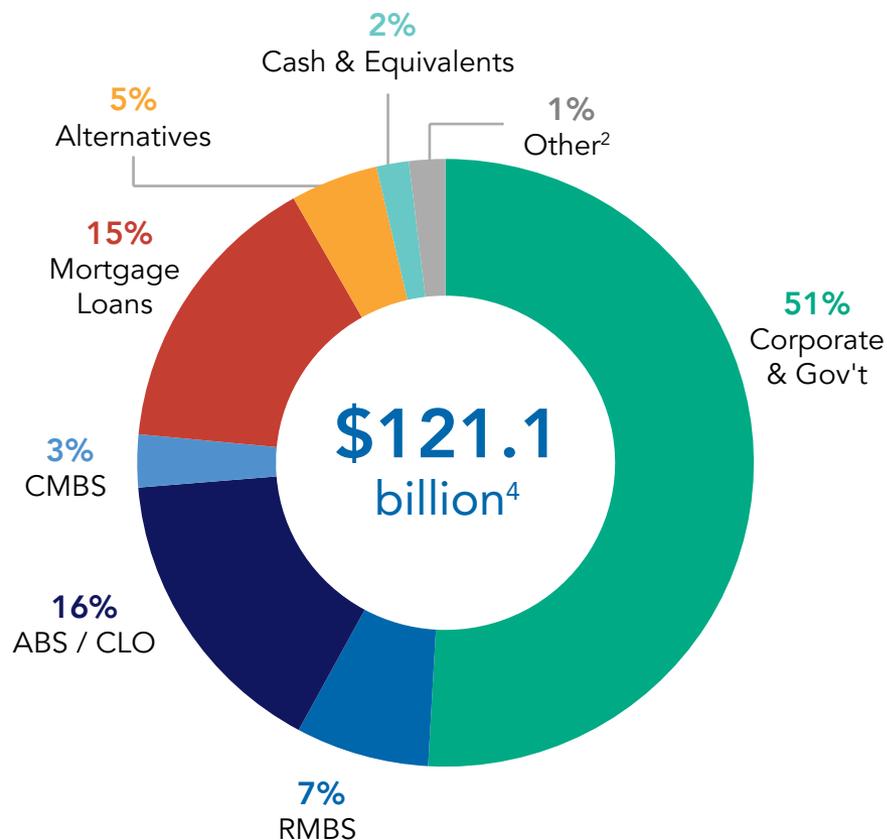
Investment Portfolio: Differentiated Capabilities Drive Returns

Strategic asset allocation targets superior returns over the long-term without assuming disproportionate credit risk

Commentary

- Maintaining investment discipline in declining interest rate environment
- Consolidated NIER of 4.35%¹
- Retirement Services NIER of 4.31%¹
 - RS Alternatives NIER of 8.90%¹ led by MidCap and AmeriHome
- Asset management differentiation through allocation, not credit risk
- Strong credit quality of structured products with vast majority of assets designated NAIC 1 or 2
 - CLO: 98%
 - RMBS: 96%
 - ABS: 91%

Investment Portfolio Composition



High Quality Fixed Income Investments

95%

Designated NAIC 1 or 2 of AFS Fixed Maturity Securities³

8bps

of OTTI on Total Average Invested Assets⁵

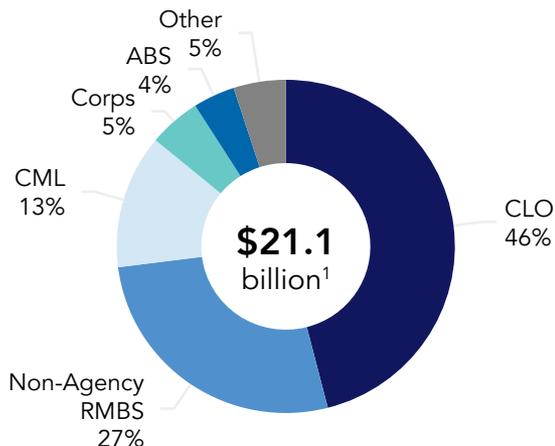
¹ For the three months ended September 30, 2019, annualized. ² Other includes short-term investments and equity securities. ³ As of September 30, 2019, including related parties. ⁴ Invested assets as of September 30, 2019. ⁵ OTTI for the three months ended September 30, 2019, annualized.

Proactively Navigating a Challenging Rate Environment

Athene is actively seeking opportunities to generate attractive yields over the long-term in a declining interest rate environment

In-Force Business

- **Fixed Rate Portfolio** (78%¹ of total invested assets)
 - High credit quality and diversified asset mix
 - Sizable unrealized gains within portfolio
- **Floating Rate Portfolio** (17%¹ of total invested assets)



- Generally bought at discount to par
- 3Q Fixed Income & Other NIER negatively impacted by 11 bps from floaters and lower RMBS prepayments
- Floating rate securities produce +/- \$30-\$35 million of adj. operating income per year for every 25 basis point change in interest rates²

On-the-Margin Business

- 3Q'19 total asset purchases of \$7 billion, up 4% year-over-year; annualized year-to-date pace suggests \$30+ billion of deployment for FY'19
- 3Q'19 fixed income and other deployment executed at ~45 bps premium to the BBB corporate bond index, net of fees
 - ~93% NAIC 1 and 2
- Value found in variety of asset classes including:
 - Aircraft leasing
 - U.S. residential and commercial mortgage loans
 - Non-U.S. residential loans
 - Franchisee loans
- Assets sourced through Apollo's direct origination platforms are a key growth area
 - e.g., pending PK AirFinance transaction

¹ As of September 30, 2019. ² Sensitivity assumes parallel shift in spot LIBOR rate and forward yield curve.

Liability Profile: Long-Dated, Persistent & Attractively Priced

Large in-force business produces significant and steady base of earnings

Commentary

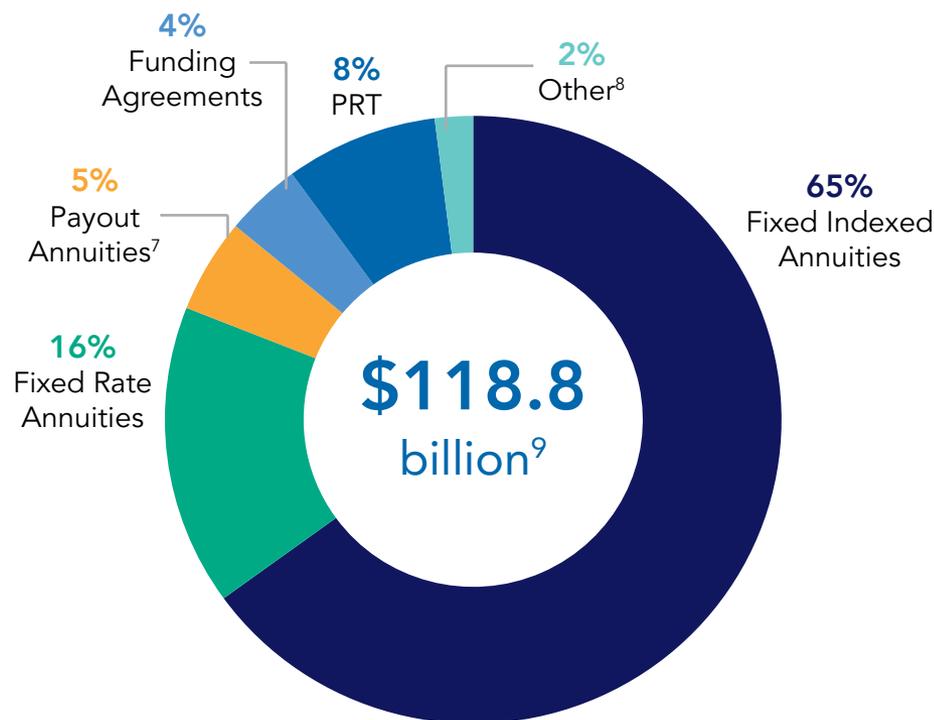
- Continue to underwrite all liability growth to the same high return thresholds and profitability standards
- 3Q'19 growth driven by strength of multi-channel distribution model and higher returns
- Non-surrenderable liabilities at ~17% of total

Deferred Annuity Metrics¹

Surrender charge protected ²	77%
Average surrender charge ³	6.2%
Subject to MVA ^{2,4}	64%
Cost of crediting on deferred annuities ⁵	1.98%
Distance to guaranteed minimum crediting rates	100 – 110 bps
Rider reserve as a percentage of account value with riders	10.7%

Diversified Liability Composition

9.4 year weighted average life⁶



¹ As of and for the three months ended September 30, 2019, as applicable. ² Based on fixed indexed annuities and fixed rate annuities only. Refers to the percentage of account value that is in the surrender charge period. ³ Based on deferred annuities only, excluding the impact of MVAs. ⁴ Refers to the % of account value that is subject to a MVA. ⁵ For Retirement Services segment deferred annuities for the three months ended September 30, 2019, annualized. ⁶ Weighted average life of total reserve liabilities; weighted average life on deferred annuities was 8.8 years. ⁷ Includes Single Premium Immediate Annuities, Supplemental Contracts and Structured Settlements. ⁸ Other primarily consists of the AmerUs Closed Block liabilities and other life reserves. ⁹ Reserve liabilities as of September 30, 2019.

Multi-Channel Distribution Model Generates Attractive Growth

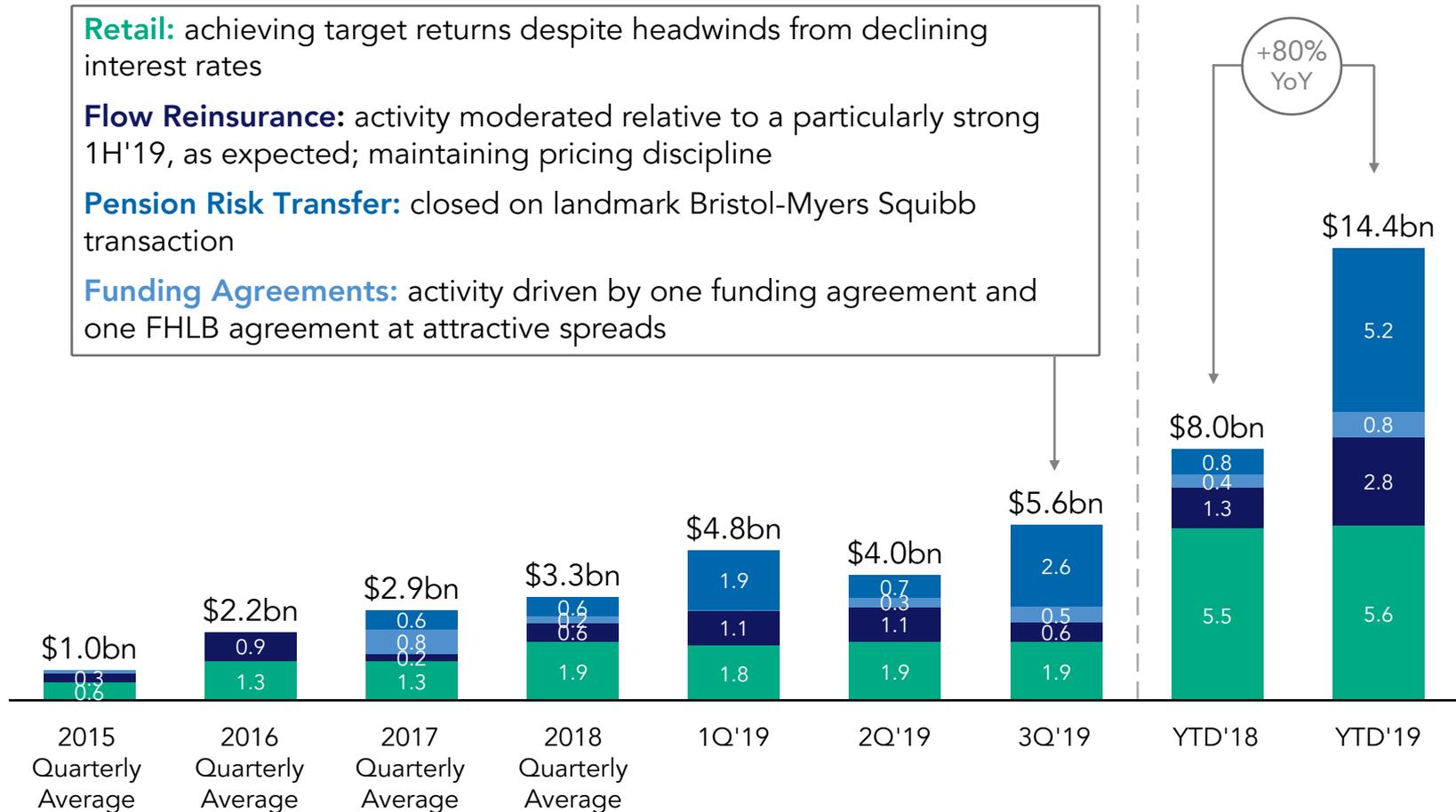
Flexibility to respond to changing market conditions across channels to opportunistically originate liabilities that generate Athene's targeted levels of profitability

Retail: achieving target returns despite headwinds from declining interest rates

Flow Reinsurance: activity moderated relative to a particularly strong 1H'19, as expected; maintaining pricing discipline

Pension Risk Transfer: closed on landmark Bristol-Myers Squibb transaction

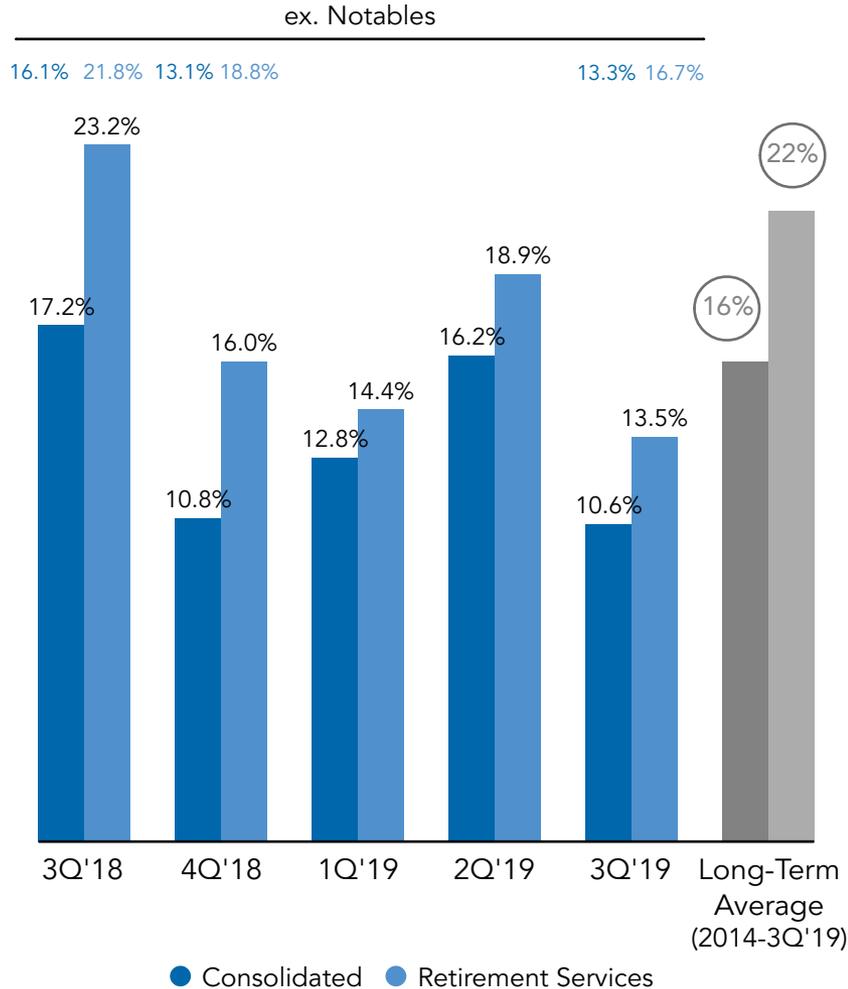
Funding Agreements: activity driven by one funding agreement and one FHLB agreement at attractive spreads



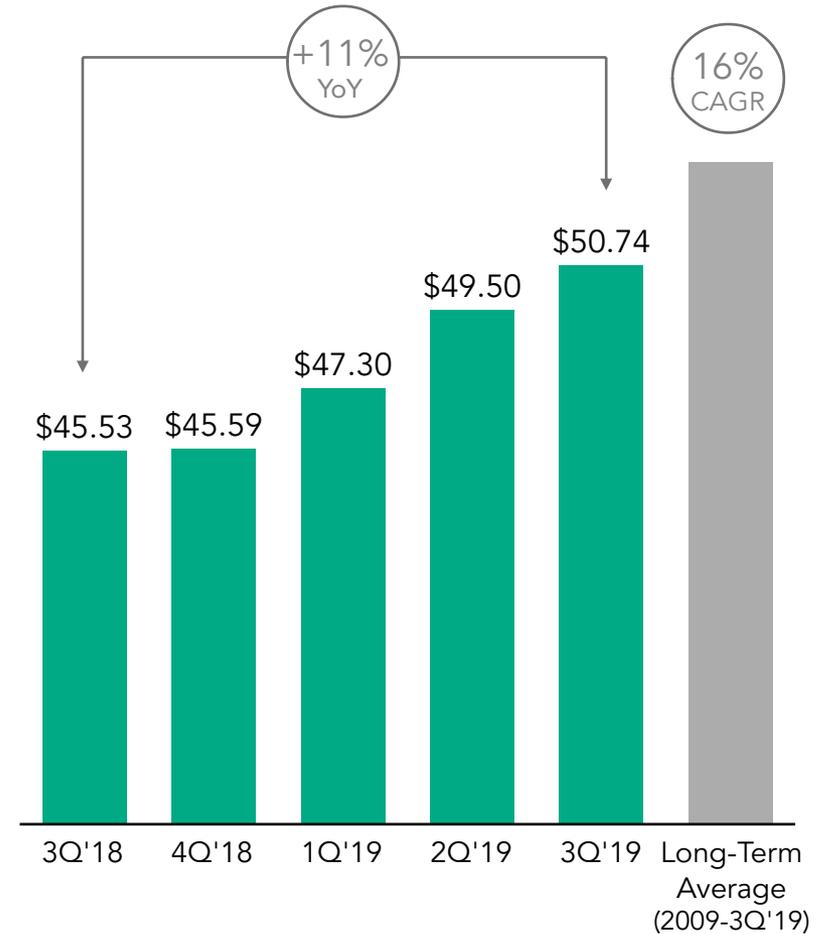
● Retail ● Flow Reinsurance ● Funding Agreements ● Pension Risk Transfer

Strong ROE Production Driving Book Value Growth

Adjusted Operating ROE



Adjusted Book Value Per Common Share



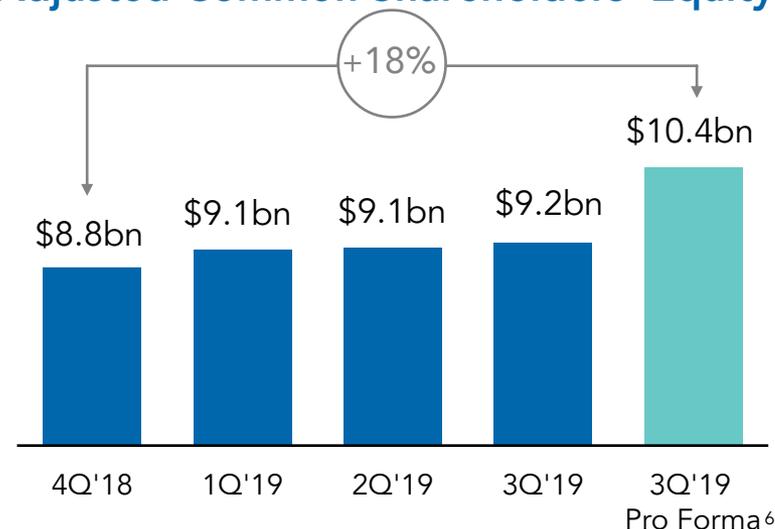
Patient and Disciplined Stewards of Capital

Capital position aligned with opportunistic approach to create long-term shareholder value

Commentary

- Consistently evaluate an abundance of capital deployment opportunities across liability trades (organic and inorganic), asset trades, as well as other opportunistic uses of capital (share repurchases, ratings maintenance and upgrades)
- 3Q'19 activity: \$121 million of share repurchases, second preferred share offering raising \$345 million of gross proceeds, and ~\$390 million of capital deployed for organic growth at mid-teens or better returns
- Recently announced strategic transaction with Apollo expected to add ~\$1 billion of excess capital upon closing

Adjusted Common Shareholders' Equity⁴



Capital Metrics¹

420%

ALRe RBC Ratio²

~\$1.8 billion

Excess Capital

8.7%

Financial Leverage³

421%

U.S. RBC Ratio

~\$2.5 billion

Untapped Debt Capacity

\$11.7 billion

Statutory Capital

Share Repurchase Activity

December 10, 2018 - November 5, 2019

Open Market Share Repurchases	22.4 million
Total Capital Used for Share Repurchases	\$927 million
Average Price Paid per Share	\$41.44
Remaining Share Repurchase Authorization	\$640 million ⁵

¹ As of September 30, 2019. ² ALRe RBC ratio, which is used in evaluating our capital position and the amount of capital needed to support our segment, is calculated by applying the NAIC RBC factors in effect as of September 30, 2019 to the Statutory Financial Statements of ALRe. ³ Adjusted debt to capital ratio. ⁴ See Non-GAAP Measures and Definitions and Non-GAAP Measure Reconciliations for more information on adjusted common shareholders' equity. ⁵ Includes \$600 million of repurchase authorization announced October 28, 2019. ⁶ Pro forma for APO transaction includes \$1.2 billion of new shares being issued in connection with strategic transaction announced Oct. 28, 2019.

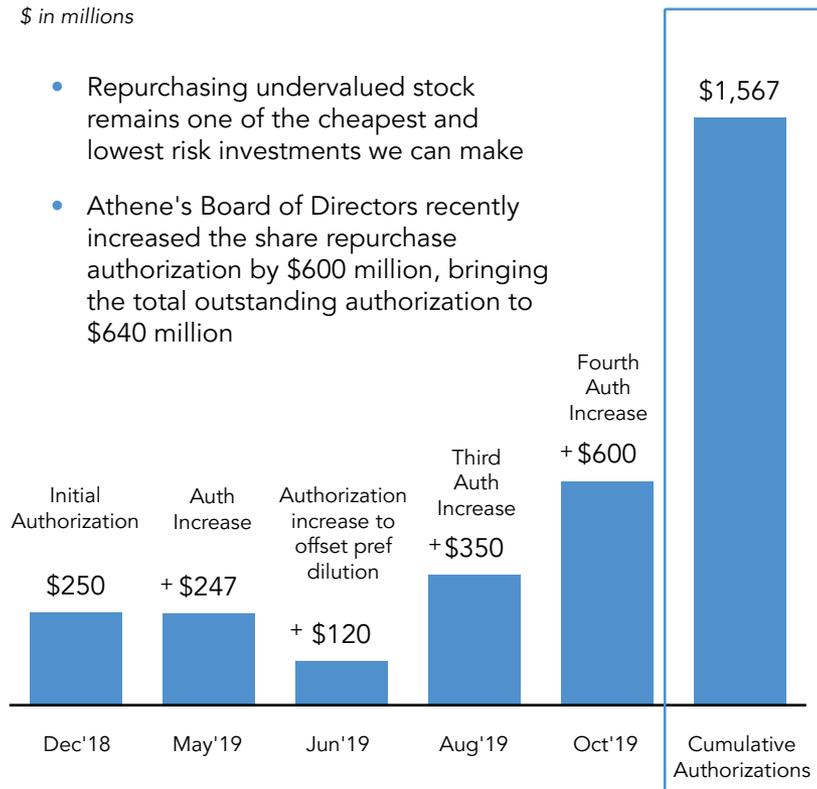
Share Repurchases Remain One of the Most Attractive Uses for Athene's Capital

Athene recently increased its share repurchase authorization by \$600 million, following more than \$900 million of activity to date

Share Repurchase Authorization History

\$ in millions

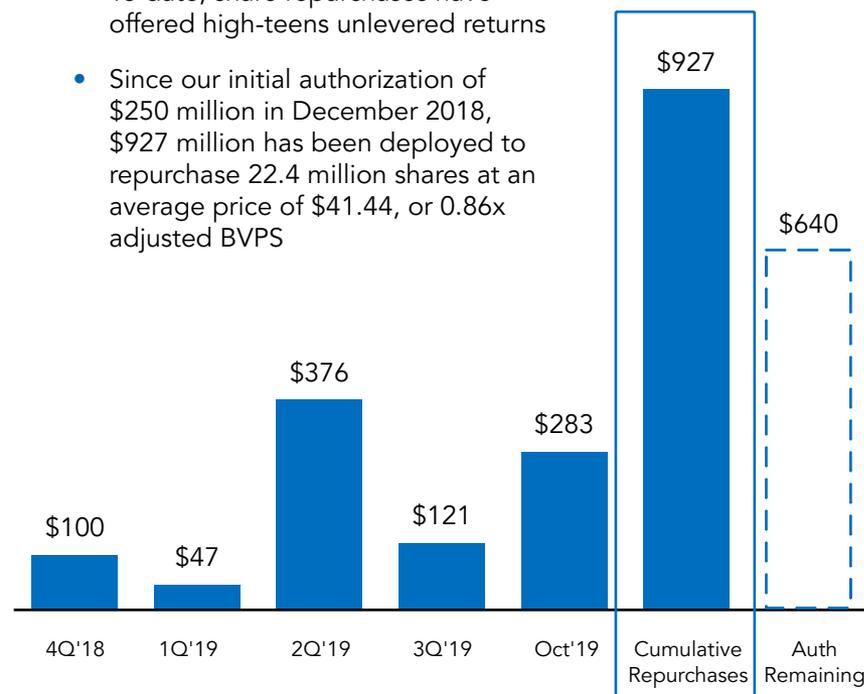
- Repurchasing undervalued stock remains one of the cheapest and lowest risk investments we can make
- Athene's Board of Directors recently increased the share repurchase authorization by \$600 million, bringing the total outstanding authorization to \$640 million



Quarterly Share Repurchase Activity

\$ in millions

- To date, share repurchases have offered high-teens unlevered returns
- Since our initial authorization of \$250 million in December 2018, \$927 million has been deployed to repurchase 22.4 million shares at an average price of \$41.44, or 0.86x adjusted BVPS



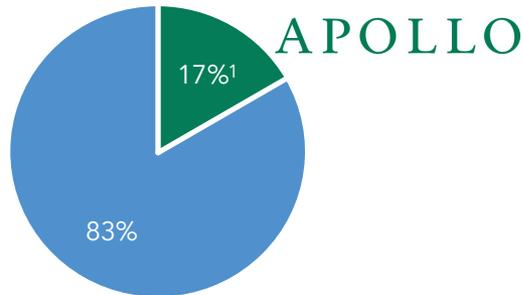
Athene intends to remain opportunistic in executing share repurchases

Athene Announced the Elimination of its Multi-Class Shares

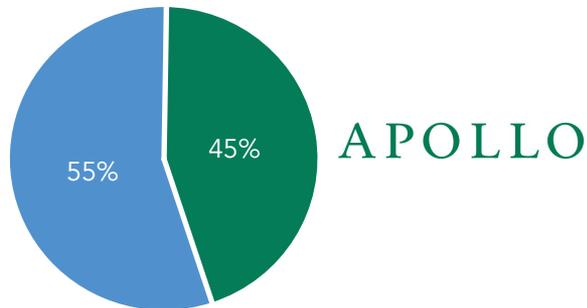
Strategic transaction with Apollo broadens Athene's investor appeal

Status Quo: Asymmetry between ownership/voting power

Economics



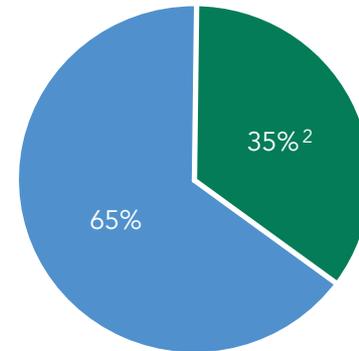
Voting Power



Pro Forma: Single share class structure

 ATHENE 

Economics and Voting Power



- Alignment between economic ownership, voting interests
- Enhanced liquidity, eligible for S&P index inclusion
- Transaction expected to close in 1Q 2020, subject to regulatory and Athene shareholder approvals

¹ Represents Apollo's beneficial ownership in Athene, including direct investment, affiliates, and Apollo employees. ² Represents Apollo's beneficial ownership in Athene, including direct investment, affiliates, Apollo employees, and certain members of Athene management. Assumes full utilization of repurchase authorization at Athene's current market price.

Components and Drivers of Retirement Services Cost of Funds

	Typical % of CoF	Drivers	3Q'19
Cost of Crediting			
Deferred Annuities	50 – 60%	Includes fixed interest credited and option costs of FIAs. Costs should trend in line with the size of the block.	\$453
Institutional Products	5 – 15%	Includes crediting costs associated with pension risk transfer and funding agreements. Costs should trend in line with the size of the block and increase in line with the strategic growth initiatives for the institutional channel.	\$123
Other Liability Costs			
Rider Reserves	10 – 20%	Reserve pattern impacted by the level of current period operating profits and changes in future expectations of profits and rider benefits as well as \$51 million of favorable unlocking impacts.	\$114
DAC, DSI, VOBA Amortization	10 – 20%	Amortization pattern impacted by the level of current period operating profits and changes in future expectations of profits as well as \$99 million of unfavorable unlocking impacts.	\$226
Other	< 10%	Primarily payout annuities (excluding PRT), policy maintenance costs, reinsurance expense allowances, excise taxes, and non-deferred acquisition costs, net of product charges. Costs generally trend in line with changes in the size of the block.	\$18
Cost of Funds			\$934

Note: The typical percentage range for each component of cost of funds may change over time. Rider reserves and DAC, DSI and VOBA amortization amounts may fall outside of the typical range due to a number of factors including unlocking of assumptions and equity market performance. For further detail regarding the components of cost of funds, please see Athene's quarterly financial supplement for the period ending September 30, 2019.



Appendix

Consolidated Results of Operations

(In millions, except percentages and per share data)

	Three months ended September 30,		Nine months ended September 30,	
	2018	2019	2018	2019
Net income available to Athene Holding Ltd. common shareholders	\$ 623	\$ 276	\$ 1,157	\$ 1,704
Non-operating adjustments				
Investment gains (losses), net of offsets	(53)	166	(160)	1,041
Change in fair values of derivatives and embedded derivatives – FIAs, net of offsets	376	(117)	530	(201)
Integration, restructuring and other non-operating expenses	(2)	(34)	(18)	(46)
Stock compensation expense	(3)	(3)	(8)	(9)
Income tax (expense) benefit – non-operating	(66)	21	(87)	19
Less: Total non-operating adjustments	252	33	257	804
Adjusted operating income available to common shareholders	\$ 371	\$ 243	\$ 900	\$ 900
Adjusted operating income available to common shareholders by segment				
Retirement Services	\$ 379	\$ 256	\$ 905	\$ 918
Corporate and Other	(8)	(13)	(5)	(18)
Adjusted operating income available to common shareholders	\$ 371	\$ 243	\$ 900	\$ 900
Notable items	(23)	62	(18)	48
Adjusted operating income available to common shareholders excluding notable items	\$ 348	\$ 305	\$ 882	\$ 948
ROE	28.6%	8.5%	17.0%	20.8%
Adjusted operating ROE	17.2%	10.6%	14.5%	13.3%
ROA	2.14%	0.78%	1.44%	1.68%
Adjusted operating ROA	1.49%	0.82%	1.37%	1.04%
Earnings per common share - diluted Class A ¹	\$ 3.15	\$ 1.50	\$ 5.85	\$ 8.95
Adjusted operating earnings per common share ²	\$ 1.90	\$ 1.34	\$ 4.59	\$ 4.79
Weighted average common shares outstanding - diluted Class A ¹	165.1	152.0	159.8	157.6
Weighted average common shares outstanding - adjusted operating ²	196.1	182.3	196.0	188.1

¹ Diluted earnings per share on Class A common shares, including diluted Class A weighted average common shares outstanding, includes the dilutive impacts, if any, of Class B and Class M common shares and any other stock-based awards. Based on allocated net income of \$227 million (82%) and \$519 million (83%) diluted Class A common shares for the three months ended September 30, 2019 and 2018, respectively. Diluted earnings per share on Class A common shares, including diluted Class A weighted average common shares outstanding, includes the dilutive impacts, if any, of Class B and Class M common shares and any other stock-based awards. Based on allocated net income of \$1.4 billion (83%) and \$934 million (81%) diluted Class A common shares for the nine months ended September 30, 2019 and 2018, respectively. ² Represents weighted average common shares outstanding assuming conversion or settlement of all outstanding items that are able to be converted to or settled in Class A common shares, including the impacts of Class B and Class M common shares outstanding and any other stock-based awards outstanding, but excluding any awards for which the exercise or conversion price exceeds the market value of our Class A common shares on the applicable measurement date.

Retirement Services Adjusted Operating Results

(In millions, except percentages)

	Three months ended September 30,				Nine months ended September 30,			
	2018	% ¹	2019	% ¹	2018	% ¹	2019	% ¹
Fixed income and other investment income	\$ 1,021	4.33 %	\$ 1,159	4.11 %	\$ 2,693	4.38 %	\$ 3,480	4.21 %
Alternatives investment income	87	10.65 %	105	8.90 %	264	11.30 %	276	8.63 %
Net investment earnings	1,108	4.55 %	1,264	4.31 %	2,957	4.63 %	3,756	4.38 %
Cost of crediting	(453)	(1.86)%	(576)	(1.96)%	(1,143)	(1.79)%	(1,658)	(1.93)%
Other liability costs	(221)	(0.91)%	(358)	(1.22)%	(649)	(1.02)%	(913)	(1.07)%
Cost of funds	(674)	(2.77)%	(934)	(3.18)%	(1,792)	(2.81)%	(2,571)	(3.00)%
Other operating expenses	(63)	(0.26)%	(67)	(0.23)%	(177)	(0.28)%	(197)	(0.23)%
Interest expense	(2)	(0.01)%	—	— %	(5)	(0.01)%	(3)	— %
Pre-tax adjusted operating income	369	1.51 %	263	0.90 %	983	1.53 %	985	1.15 %
Income tax (expense) benefit - operating	10	0.04 %	(7)	(0.03)%	(78)	(0.11)%	(67)	(0.08)%
Adjusted operating income	379	1.55 %	256	0.87 %	905	1.42 %	918	1.07 %
Preferred stock dividends	—	— %	—	— %	—	— %	—	— %
Adjusted operating income available to common shareholders	<u>\$ 379</u>	<u>1.55 %</u>	<u>\$ 256</u>	<u>0.87 %</u>	<u>\$ 905</u>	<u>1.42 %</u>	<u>\$ 918</u>	<u>1.07 %</u>
Notable items	(23)	(0.09)%	62	0.21 %	(18)	(0.03)%	48	0.06 %
Adjusted operating income available to common shareholders excluding notable items	<u>\$ 356</u>	<u>1.46 %</u>	<u>\$ 318</u>	<u>1.08 %</u>	<u>\$ 887</u>	<u>1.39 %</u>	<u>\$ 966</u>	<u>1.13 %</u>
Cost of crediting on deferred annuities	\$ 395	1.98 %	\$ 453	1.98 %	\$ 988	1.93 %	\$ 1,345	1.98 %
Cost of crediting on institutional products	58	3.54 %	123	3.68 %	155	3.29 %	313	3.71 %
Cost of crediting	<u>\$ 453</u>	<u>1.86 %</u>	<u>\$ 576</u>	<u>1.96 %</u>	<u>\$ 1,143</u>	<u>1.79 %</u>	<u>\$ 1,658</u>	<u>1.93 %</u>
Net investment earned rate	4.55%		4.31%		4.63%		4.38%	
Cost of crediting	1.86%		1.96%		1.79%		1.93%	
Other liability costs	0.91%		1.22%		1.02%		1.07%	
Cost of funds	2.77%		3.18%		2.81%		3.00%	
Net investment spread	<u>1.78%</u>		<u>1.13%</u>		<u>1.82%</u>		<u>1.38%</u>	
Net Investment Earned Rate	4.55%		4.31%		4.63%		4.38%	
Cost of crediting on deferred annuities	1.98%		1.98%		1.93%		1.98%	
Investment margin on deferred annuities	<u>2.57%</u>		<u>2.33%</u>		<u>2.70%</u>		<u>2.40%</u>	
Adjusted operating ROE	23.2%		13.5%		19.7%		16.0%	

¹ Net investment earned rate is calculated as net investment earnings divided by average invested assets for the relevant period. Cost of funds (comprised of cost of crediting and other liability costs) uses average invested assets as the denominator in the calculation. Other operating expenses and income tax (expense) benefit use average invested assets as the denominator in the calculation. Cost of crediting on deferred annuities is calculated as interest credited on fixed strategies and option costs on index annuity strategies divided by average account value of our deferred annuities. Cost of crediting on institutional products is calculated as interest credited on institutional products (pension risk transfer and funding agreement) divided by average reserves on institutional products. Interim periods are annualized.

Reserve Liability Rollforward

(In millions)

	Three months ended September 30,		Nine months ended September 30,	
	2018	2019	2018	2019
1 Total reserve liabilities – beginning	\$ 96,248	\$ 114,680	\$ 75,447	\$ 107,732
2 Deposits	3,407	5,759	8,336	14,772
3 Acquisition and block reinsurance	—	—	19,104	—
4 Liability outflows	(2,167)	(2,807)	(5,734)	(8,494)
5 Other reserve changes	1,065	1,193	1,400	4,815
Total reserve liabilities – ending	<u>\$ 98,553</u>	<u>\$ 118,825</u>	<u>\$ 98,553</u>	<u>\$ 118,825</u>

- 1 Retirement Services reserve liabilities include deferred annuity, payout annuity, funding agreements and life products.
- 2 Deposits include new deposits on retail, flow reinsurance and institutional products, as well as renewal premiums, internal product exchanges and annuitizations.
- 3 Acquisitions and block reinsurance transactions includes the reserve liabilities acquired in our inorganic channel at inception.
- 4 Liability outflows includes full surrenders, partial withdrawals, death benefits, annuitization benefits and interest payments and maturities on funding agreement products.
- 5 Other reserve changes primarily include fixed and bonus interest credits, change in fair value of reinsurance assets, change in rider reserves, product charges and change in life reserves.

Non-GAAP Measures and Definitions

- Adjusted operating income is a non-GAAP measure used to evaluate our financial performance excluding market volatility and expenses related to integration, restructuring, stock compensation, and other expenses. Our adjusted operating income equals net income adjusted to eliminate the impact of the following (collectively, the "non-operating adjustments"): (a) investment gains (losses), (b) change in fair values of derivatives and embedded derivatives - FIA, net of offsets, (c) integration, restructuring, and other non-operating expenses, (d) stock compensation expense, (e) bargain purchase gain and (f) income tax (expense) benefit - non-operating.

We consider these non-operating adjustments to be meaningful adjustments to net income available to AHL common shareholders for the reasons discussed in greater detail above. Accordingly, we believe using a measure which excludes the impact of these items is useful in analyzing our business performance and the trends in our results of operations. Together with net income available to AHL common shareholders, we believe adjusted operating income available to common shareholders provides a meaningful financial metric that helps investors understand our underlying results and profitability. Adjusted operating income available to common shareholders should not be used as a substitute for net income available to AHL common shareholders.

- Adjusted operating ROA is a non-GAAP measure used to evaluate our financial performance and profitability. Adjusted operating ROA is computed using our adjusted operating income available to common shareholders divided by average invested assets for the relevant period. To enhance the ability to analyze these measures across periods, interim periods are annualized. While we believe each of these metrics are meaningful financial metrics and enhance our understanding of the underlying profitability drivers of our business, they should not be used as a substitute for ROA presented under GAAP.
- Adjusted operating ROE is a non-GAAP measure used to evaluate our financial performance excluding the impacts of AOCI and the cumulative change in fair value of funds withheld and modco reinsurance assets, in each case net of DAC, DSI, rider reserve and tax offsets. Adjusted common shareholders' equity is calculated as the ending shareholders' equity excluding AOCI, the cumulative change in fair value of funds withheld and modco reinsurance assets and preferred stock. Adjusted operating ROE is calculated as the adjusted operating income available to common shareholders, divided by average adjusted common shareholders' equity. These adjustments fluctuate period to period in a manner inconsistent with our underlying profitability drivers as the majority of such fluctuation is related to the market volatility of the unrealized gains and losses associated with our AFS securities. Except with respect to reinvestment activity relating to acquired blocks of businesses, we typically buy and hold AFS investments to maturity throughout the duration of market fluctuations, therefore, the period-over-period impacts in unrealized gains and losses are not necessarily indicative of current operating fundamentals or future performance. Accordingly, we believe using measures which exclude AOCI and the cumulative change in fair value of funds withheld and modco reinsurance assets are useful in analyzing trends in our operating results. To enhance the ability to analyze these measures across periods, interim periods are annualized. Adjusted operating ROE should not be used as a substitute for ROE. However, we believe the adjustments to equity are significant to gaining an understanding of our overall financial performance.
- Adjusted operating earnings per common share, weighted average common shares outstanding – adjusted operating and adjusted book value per common share are non-GAAP measures used to evaluate our financial performance and financial condition. The non-GAAP measures adjust the number of shares included in the corresponding GAAP measures to reflect the conversion or settlement of all shares and other stock-based awards outstanding. We believe using these measures represents an economic view of our share counts and provides a simplified and consistent view of our outstanding shares. Adjusted operating earnings per common share is calculated as the adjusted operating income available to common shareholders, over the weighted average common shares outstanding – adjusted operating. Adjusted book value per common share is calculated as the adjusted common shareholders' equity divided by the adjusted operating common shares outstanding. Our Class B common shares are economically equivalent to Class A common shares and can be converted to Class A common shares on a one-for-one basis at any time. Our Class M common shares are in the legal form of shares but economically function as options as they are convertible into Class A shares after vesting and payment of the conversion price. In calculating Class A diluted earnings per share on a GAAP basis, we are required to apply sequencing rules to determine the dilutive impacts, if any, of our Class B common shares, Class M common shares and any other stock-based awards. To the extent our Class B common shares, Class M common shares and/or any other stock-based awards are not dilutive, after considering the dilutive effects of the more dilutive securities in the sequence, they are excluded. Weighted average common shares outstanding – adjusted operating and adjusted operating common shares outstanding assume conversion or settlement of all outstanding items that are able to be converted to or settled in Class A common shares, including the impacts of Class B common shares on a one-for-one basis, the impacts of all Class M common shares net of the conversion price and any other stock-based awards, but excluding any awards for which the exercise or conversion price exceeds the market value of our Class A common shares on the applicable measurement date. For certain historical periods, Class M shares were not included due to issuance restrictions which were contingent upon our IPO. Adjusted operating earnings per common share, weighted average common shares outstanding – adjusted operating and adjusted book value per common share should not be used as a substitute for basic earnings per share – Class A common shares, basic weighted average common shares outstanding – Class A or book value per common share. However, we believe the adjustments to the shares and equity are significant to gaining an understanding of our overall results of operations and financial condition.
- Adjusted debt to capital ratio is a non-GAAP measure used to evaluate our capital structure excluding the impacts of AOCI and the cumulative change in fair value of funds withheld and modco reinsurance assets, net of DAC, DSI, rider reserve and tax offsets. Adjusted debt to capital ratio is calculated as total debt excluding consolidated variable interest entities (VIEs) divided by adjusted shareholders' equity. Adjusted debt to capital ratio should not be used as a substitute for the debt to capital ratio. However, we believe the adjustments to total debt and shareholders' equity are significant to gaining an understanding of our capitalization, debt utilization and debt capacity.

Non-GAAP Measures and Definitions

- Net investment spread is a key measurement of the financial health of our Retirement Services profitability. Net investment spread measures our investment performance less the total cost of our liabilities. Net investment earned rate is a key measure of our investment performance, while cost of funds is a key measure of the cost of our policyholder benefits and liabilities. Investment margin on our deferred annuities measures our investment performance less the cost of crediting for our deferred annuities, which make up a significant portion of our reserve liabilities.
 - Net investment earned rate is a non-GAAP measure we use to evaluate the performance of our invested assets that does not correspond to GAAP net investment income. Net investment earned rate is computed as the income from our invested assets divided by the average invested assets for the relevant period. To enhance the ability to analyze these measures across periods, interim periods are annualized. The adjustments to arrive at our net investment earned rate add alternative investment gains and losses, gains and losses related to trading securities for CLOs, net VIE impacts (revenues, expenses and noncontrolling interest) and the change in fair value of reinsurance assets. We include the income and assets supporting our change in fair value of reinsurance assets by evaluating the underlying investments of the funds withheld at interest receivables and we include the net investment income from those underlying investments which does not correspond to the GAAP presentation of change in fair value of reinsurance assets. We exclude the income and assets supporting business that we have exited through ceded reinsurance including funds withheld agreements. We believe the adjustments for reinsurance provide a net investment earned rate on the assets for which we have economic exposure.
 - Cost of funds includes liability costs related to cost of crediting on both deferred annuities and institutional products as well as other liability costs. Cost of funds is computed as the total liability costs divided by the average invested assets for the relevant period. To enhance the ability to analyze these measures across periods, interim periods are annualized.
 - * Cost of crediting includes the costs for both deferred annuities and institutional products. Cost of crediting on deferred annuities is the interest credited to the policyholders on our fixed strategies as well as the option costs on the indexed annuity strategies. With respect to FIAs, the cost of providing index credits includes the expenses incurred to fund the annual index credits, and where applicable, minimum guaranteed interest credited. Cost of crediting on institutional products is comprised of PRT costs including interest credited, benefit payments and other reserve changes, net of premiums received when issued, as well as funding agreement costs including the interest payments and other reserve changes. Cost of crediting is computed as the cost of crediting for deferred annuities and institutional products divided by the average invested assets for the relevant periods. Cost of crediting on deferred annuities is computed as the interest credited on fixed strategies and option costs on indexed annuity strategies divided by the average account value of our deferred annuities. Cost of crediting on institutional products is computed as the PRT and funding agreement costs divided by the average institutional reserve liabilities. Our average invested assets, account values and institutional reserve liabilities are averaged over the number of quarters in the relevant period to obtain our associated cost of crediting for such period. To enhance the ability to analyze these measures across periods, interim periods are annualized.
 - * Other liability costs include DAC, DSI and VOBA amortization, change in rider reserves, the cost of liabilities on products other than deferred annuities and institutional products, excise taxes, premiums, product charges and other revenues. We believe a measure like other liability costs is useful in analyzing the trends of our core business operations and profitability. While we believe other liability costs is a meaningful financial metric and enhances our understanding of the underlying profitability drivers of our business, it should not be used as a substitute for total benefits and expenses presented under GAAP.
- Operating expenses excludes integration, restructuring and other non-operating expenses, stock compensation expense, interest expense and policy acquisition expenses. We believe a measure like operating expenses is useful in analyzing the trends of our core business operations and profitability. While we believe operating expenses is a meaningful financial metric and enhances our understanding of the underlying profitability drivers of our business, it should not be used as a substitute for policy and other operating expenses presented under GAAP.
- In managing our business we analyze invested assets, which does not correspond to total investments, including investments in related parties, as disclosed in our consolidated financial statements and notes thereto. Invested assets represents the investments that directly back our reserve liabilities as well as surplus assets. Invested assets is used in the computation of net investment earned rate, which allows us to analyze the profitability of our investment portfolio. Invested assets includes (a) total investments on the consolidated balance sheets with AFS securities at cost or amortized cost, excluding derivatives, (b) cash and cash equivalents and restricted cash, (c) investments in related parties, (d) accrued investment income, (e) the consolidated VIE assets, liabilities and noncontrolling interest, (f) net investment payables and receivables and (g) policy loans ceded (which offset the direct policy loans in total investments). Invested assets also excludes assets associated with funds withheld liabilities related to business exited through reinsurance agreements and derivative collateral (offsetting the related cash positions). We include the underlying investments supporting our assumed funds withheld and modco agreements in our invested assets calculation in order to match the assets with the income received. We believe the adjustments for reinsurance provide a view of the assets for which we have economic exposure. Our invested assets are averaged over the number of quarters in the relevant period to compute our net investment earned rate for such period.
- In managing our business we also analyze reserve liabilities, which does not correspond to total liabilities as disclosed in our consolidated financial statements and notes thereto. Reserve liabilities represents our policyholder liability obligations net of reinsurance and is used to analyze the costs of our liabilities. Reserve liabilities includes (a) the interest sensitive contract liabilities, (b) future policy benefits, (c) dividends payable to policyholders, and (d) other policy claims and benefits, offset by reinsurance recoverable, excluding policy loans ceded. Reserve liabilities is net of the ceded liabilities to third-party reinsurers as the costs of the liabilities are passed to such reinsurers and, therefore, we have no net economic exposure to such liabilities, assuming our reinsurance counterparties perform under our agreements. The majority of our ceded reinsurance is a result of reinsuring large blocks of life business following acquisitions. For such transactions, GAAP requires the ceded liabilities and related reinsurance recoverables to continue to be recorded in our consolidated financial statements despite the transfer of economic risk to the counterparty in connection with the reinsurance transaction.
- Sales statistics do not correspond to revenues under GAAP but are used as relevant measures to understand our business performance as it relates to deposits generated during a specific period of time. Our sales statistics include deposits for fixed rate annuities and FIAs and align with the LIMRA definition of all money paid into an individual annuity, including money paid into new contracts with initial purchase occurring in the specified period and existing contracts with initial purchase occurring prior to the specified period (excluding internal transfers).

Non-GAAP Measure Reconciliations

Reconciliation of shareholders' equity to adjusted common shareholders' equity

<i>(In millions)</i>	December 31,		September 30,	
	2009	2018	2018	2019
Total shareholders' equity	\$ 113	\$ 8,978	\$ 8,978	\$ 13,545
Less: Preferred stock	—	—	—	1,172
Total common shareholders' equity	113	8,978	8,978	12,373
Less: AOCI	1	33	33	2,442
Less: Accumulated change in fair value of reinsurance assets	—	(31)	(31)	727
Total adjusted common shareholders' equity	\$ 112	\$ 8,976	\$ 8,976	\$ 9,204
Retirement Services		\$ 7,024	\$ 7,024	\$ 7,494
Corporate and Other		1,952	1,952	1,710
Total adjusted common shareholders' equity		\$ 8,976	\$ 8,976	\$ 9,204

Reconciliation of average shareholders' equity to average adjusted common shareholders' equity

<i>(In millions)</i>	Twelve months ended December 31,					Three months ended September 30,		Nine months ended September 30,	
	2014	2015	2016	2017	2018	2018	2019	2018	2019
Average shareholders' equity	\$ 3,648	\$ 4,959	\$ 6,124	\$ 8,029	\$ 8,726	\$ 8,720	\$ 12,955	\$ 9,077	\$ 10,911
Less: Average preferred stock	—	—	—	—	—	—	1,006	—	586
Less: Average AOCI	359	203	63	908	489	90	2,101	741	985
Less: Average accumulated change in fair value of reinsurance assets	100	58	41	112	43	(10)	683	65	326
Average adjusted common shareholders' equity	\$ 3,189	\$ 4,698	\$ 6,020	\$ 7,009	\$ 8,194	\$ 8,640	\$ 9,165	\$ 8,271	\$ 9,014
Retirement Services	\$ 2,262	\$ 3,333	\$ 4,186	\$ 4,823	\$ 6,522	\$ 6,537	\$ 7,598	\$ 6,130	\$ 7,651
Corporate and Other	927	1,365	1,834	2,186	1,672	2,103	1,567	2,141	1,363
Average adjusted common shareholders' equity	\$ 3,189	\$ 4,698	\$ 6,020	\$ 7,009	\$ 8,194	\$ 8,640	\$ 9,165	\$ 8,271	\$ 9,014

Reconciliation of total capitalization to total adjusted capitalization

<i>(In millions)</i>	September 30,	
	2018	2019
Total debt	\$ 991	\$ 992
Total shareholders' equity	8,978	13,545
Total capitalization	9,969	14,537
Less: AOCI	33	2,442
Less: Accumulated change in fair value of reinsurance assets	(31)	727
Total adjusted capitalization	\$ 9,967	\$ 11,368

Non-GAAP Measure Reconciliations

Reconciliation of basic Class A common shares outstanding to adjusted operating common shares outstanding

<i>(In millions)</i>	December 31,		September 30,	
	2009		2018	2019
Class A common shares outstanding	0.1		164.6	149.8
Conversion of Class B common shares to Class A common shares	9.7		25.5	25.4
Conversion of Class M common shares to Class A common shares	—		6.0	5.1
Effect of other stock compensation plans	—		1.1	1.1
Adjusted operating common shares outstanding	9.8		197.2	181.4

Reconciliation of book value per common share to adjusted book value per common share

	December 31,		September 30,	
	2009		2018	2019
Book value per common share	\$ 11.62	\$	45.51	\$ 74.20
Preferred stock	—		—	(6.42)
AOCI	(0.13)		(0.17)	(13.38)
Accumulated change in fair value of reinsurance assets	—		0.16	(3.98)
Effect of items convertible to or settled in Class A common shares	—		0.03	0.32
Adjusted book value per common share	\$ 11.49	\$	45.53	\$ 50.74

Reconciliation of basic earnings per Class A common shares to adjusted operating earnings per common share

<i>(in millions)</i>	Three months ended September 30,		Nine months ended September 30,	
	2018	2019	2018	2019
Basic earnings per share – Class A common shares	\$ 3.16	\$ 1.50	\$ 5.86	\$ 8.97
Non-operating adjustments				
Investment gains (losses), net of offsets	(0.29)	0.91	(0.81)	5.52
Change in fair values of derivatives and embedded derivatives – FIAs, net of offsets	1.91	(0.65)	2.71	(1.07)
Integration, restructuring and other non-operating expenses	(0.02)	(0.18)	(0.10)	(0.24)
Stock compensation expense	(0.01)	(0.02)	(0.04)	(0.05)
Income tax (expense) benefit – non-operating	(0.34)	0.12	(0.44)	0.10
Less: Total non-operating adjustments	1.25	0.18	1.32	4.26
Less: Effect of items convertible to or settled in Class A common shares	0.01	(0.02)	(0.05)	(0.08)
Adjusted operating earnings per common share	\$ 1.90	\$ 1.34	\$ 4.59	\$ 4.79

Non-GAAP Measure Reconciliations

Reconciliation of basic weighted average Class A common shares to weighted average common shares outstanding - adjusted operating

(In millions)	Three months ended September 30,		Nine months ended September 30,	
	2018	2019	2018	2019
Basic weighted average common shares outstanding – Class A	164.5	151.6	159.3	157.2
Conversion of Class B common shares to Class A common shares	25.5	25.4	30.6	25.4
Conversion of Class M common shares to Class A common shares	5.6	4.9	5.6	5.1
Effect of other stock compensation plans	0.5	0.4	0.5	0.4
Weighted average common shares outstanding – adjusted operating	196.1	182.3	196.0	188.1

Reconciliation of net income (loss) available to common shareholders to adjusted operating income available to common shareholders ex. notable items

(In millions)	Three Months Ended,											
	Mar. 31, 2017	June 30, 2017	Sept. 30, 2017	Dec. 31, 2017	Mar. 31, 2018	June 30, 2018	Sept. 30, 2018	Dec. 31, 2018	Mar. 31, 2019	June 30, 2019	Sept. 30, 2019	
Net income (loss) available to Athene Holding Ltd. common shareholders	\$ 377	\$ 298	\$ 244	\$ 439	\$ 277	\$ 257	\$ 623	\$ (104)	\$ 708	\$ 720	\$ 276	
Less: Total non-operating adjustments	109	37	31	126	36	(31)	252	(344)	421	350	33	
Adjusted operating income available to common shareholder	268	261	213	313	241	288	371	240	287	370	243	
Notable items	(50)	(26)	17	(81)	12	(11)	(23)	53	—	—	62	
Adjusted operating income available to common shareholders excluding notable items	\$ 218	\$ 235	\$ 230	\$ 232	\$ 253	\$ 277	\$ 348	\$ 293	\$ 287	\$ 370	\$ 305	
Retirement Services adjusted operating income available to common shareholders	\$ 277	\$ 248	\$ 226	\$ 287	\$ 239	\$ 287	\$ 379	\$ 296	\$ 286	\$ 376	\$ 256	
Proceeds from bond previously written down	(14)	—	—	—	—	—	—	—	—	—	—	
Rider Reserve and DAC equity market performance	(40)	(28)	(20)	(55)	14	(13)	(38)	58	—	—	5	
Unlocking	—	—	20	—	—	—	13	—	—	—	48	
Out of period actuarial adjustments	—	—	—	—	—	—	—	—	—	—	13	
Tax impact of notable items	4	2	—	4	(2)	2	2	(5)	—	—	(4)	
Retirement Services notable items	(50)	(26)	—	(51)	12	(11)	(23)	53	—	—	62	
Retirement Services adjusted operating income available to common shareholders excluding notable items	227	222	226	236	251	276	356	349	286	376	318	
Corporate and Other adjusted operating income (loss) available to common shareholders	(9)	13	(13)	26	2	1	(8)	(56)	1	(6)	(13)	
Germany adjusted operating income (loss), net of tax	—	—	17	(30)	—	—	—	—	—	—	—	
Corporate and Other adjusted operating income (loss) available to common shareholders excluding notable items	(9)	13	4	(4)	2	1	(8)	(56)	1	(6)	(13)	
Adjusted operating income available to common shareholders excluding notable items	\$ 218	\$ 235	\$ 230	\$ 232	\$ 253	\$ 277	\$ 348	\$ 293	\$ 287	\$ 370	\$ 305	

Non-GAAP Measure Reconciliations

Reconciliation of net income available to common shareholders to adjusted operating income available to common shareholders excluding notable items

<i>(In millions)</i>	Nine Months Ended,	
	September 30, 2018	September 30, 2019
Net income available to Athene Holding Ltd. common shareholders	\$ 1,157	\$ 1,704
Less: Total non-operating adjustments	257	804
Adjusted operating income available to common shareholder	900	900
Notable items	(18)	48
Adjusted operating income available to common shareholders excluding notable items	\$ 882	\$ 948
Retirement Services adjusted operating income available to common shareholders	\$ 905	\$ 918
Rider Reserve and DAC equity market performance	(33)	(26)
Unlocking	13	48
Out of period actuarial adjustments	—	30
Tax impact of notable items	2	(4)
Retirement Services notable items	(18)	48
Retirement Services adjusted operating income available to common shareholders excluding notable items	887	966
Corporate and Other adjusted operating loss available to common shareholders	(5)	(18)
Adjusted operating income available to common shareholders excluding notable items	\$ 882	\$ 948

Non-GAAP Measure Reconciliations

Reconciliation of GAAP net investment income to net investment earnings and earned rate

<i>(In millions)</i>	Three months ended September 30,				Nine months ended September 30,			
	2018		2019		2018		2019	
	Dollar	Rate	Dollar	Rate	Dollar	Rate	Dollar	Rate
GAAP net investment income	\$ 1,070	4.30 %	\$ 1,070	3.60 %	\$ 2,883	4.39 %	\$ 3,297	3.80 %
Change in fair value of reinsurance assets	52	0.20 %	199	0.67 %	169	0.26 %	492	0.57 %
Net VIE earnings	39	0.16 %	23	0.08 %	55	0.08 %	68	0.08 %
Alternative income gain (loss)	(14)	(0.06)%	6	0.02 %	(14)	(0.02)%	13	0.01 %
Held for trading amortization and other	(21)	(0.08)%	(6)	(0.02)%	(65)	(0.10)%	(30)	(0.03)%
Total adjustments to arrive at net investment earnings/earned rate	56	0.22 %	222	0.75 %	145	0.22 %	543	0.63 %
Total net investment earnings/earned rate	<u>\$ 1,126</u>	<u>4.52 %</u>	<u>\$ 1,292</u>	<u>4.35 %</u>	<u>\$ 3,028</u>	<u>4.61 %</u>	<u>\$ 3,840</u>	<u>4.43 %</u>
Retirement Services	\$ 1,108	4.55 %	\$ 1,264	4.31 %	\$ 2,957	4.63 %	\$ 3,756	4.38 %
Corporate and Other	18	3.51 %	28	7.28 %	71	3.86 %	84	8.92 %
Total net investment earnings/earned rate	<u>\$ 1,126</u>	<u>4.52 %</u>	<u>\$ 1,292</u>	<u>4.35 %</u>	<u>\$ 3,028</u>	<u>4.61 %</u>	<u>\$ 3,840</u>	<u>4.43 %</u>
Retirement Services average invested assets	\$ 97,500		\$ 117,338		\$ 85,163		\$ 114,391	
Corporate and Other average invested assets	2,103		1,567		2,473		1,262	
Average invested assets	<u>\$ 99,603</u>		<u>\$ 118,905</u>		<u>\$ 87,636</u>		<u>\$ 115,653</u>	

Non-GAAP Measure Reconciliations

Reconciliation GAAP interest sensitive contract benefits to Retirement Services' cost of crediting

(In millions)	Three months ended September 30,				Nine months ended September 30,			
	2018		2019		2018		2019	
	Dollar	Rate	Dollar	Rate	Dollar	Rate	Dollar	Rate
GAAP interest sensitive contract benefits	\$ 742	3.04 %	\$ 801	2.73 %	\$ 1,115	1.75 %	\$ 3,411	3.98 %
Interest credited other than deferred annuities and institutional products	14	0.06 %	63	0.21 %	30	0.05 %	168	0.19 %
FIA option costs	231	0.95 %	282	0.96 %	611	0.96 %	840	0.98 %
Product charges (strategy fees)	(25)	(0.10)%	(31)	(0.10)%	(70)	(0.11)%	(88)	(0.10)%
Reinsurance embedded derivative impacts	29	0.12 %	14	0.05 %	35	0.05 %	43	0.05 %
Change in fair values of embedded derivatives – FIAs	(546)	(2.24)%	(560)	(1.91)%	(603)	(0.94)%	(2,739)	(3.19)%
Negative VOBA amortization	5	0.02 %	9	0.03 %	22	0.03 %	28	0.03 %
Other changes in interest sensitive contract liabilities	3	0.01 %	(2)	(0.01)%	3	— %	(5)	(0.01)%
Total adjustments to arrive at cost of crediting	(289)	(1.18)%	(225)	(0.77)%	28	0.04 %	(1,753)	(2.05)%
Retirement Services cost of crediting	\$ 453	1.86 %	\$ 576	1.96 %	\$ 1,143	1.79 %	\$ 1,658	1.93 %
Retirement Services cost of crediting on deferred annuities	\$ 395	1.98 %	\$ 453	1.98 %	\$ 988	1.93 %	\$ 1,345	1.98 %
Retirement Services cost of crediting on institutional products	58	3.54 %	123	3.68 %	155	3.29 %	313	3.71 %
Retirement Services cost of crediting	\$ 453	1.86 %	\$ 576	1.96 %	\$ 1,143	1.79 %	\$ 1,658	1.93 %
Retirement Services average invested assets	\$ 97,500		\$ 117,338		\$ 85,163		\$ 114,391	
Average account value on deferred annuities	79,673		91,467		68,421		90,638	
Average institutional reserve liabilities	6,608		13,320		6,301		11,200	

Non-GAAP Measure Reconciliations

Reconciliation of GAAP benefits and expenses to other liability costs

(In millions)	Three months ended September 30,		Nine months ended September 30,	
	2018	2019	2018	2019
GAAP benefits and expenses	\$ 1,897	\$ 4,222	\$ 4,067	\$ 11,062
Premiums	(526)	(2,605)	(1,535)	(5,304)
Product charges	(119)	(135)	(321)	(392)
Other revenues	(10)	(6)	(22)	(27)
Cost of crediting	(193)	(280)	(497)	(775)
Change in fair value of embedded derivatives – FIA, net of offsets	(768)	(497)	(939)	(2,574)
DAC, DSI and VOBA amortization related to investment gains and losses	28	(151)	74	(505)
Rider reserves	1	(9)	8	(61)
Policy and other operating expenses, excluding policy acquisition expenses	(98)	(130)	(293)	(350)
AmerUs closed block fair value liability	8	(46)	98	(158)
Other	1	(5)	9	(3)
Total adjustments to arrive at other liability costs	(1,676)	(3,864)	(3,418)	(10,149)
Other liability costs	\$ 221	\$ 358	\$ 649	\$ 913
Retirement Services	\$ 221	\$ 358	649	913
Corporate and Other	—	—	—	—
Consolidated other liability costs	\$ 221	\$ 358	\$ 649	\$ 913

Reconciliation GAAP policy and other expenses to operating expenses

(In millions)	Three months ended September 30,		Nine months ended September 30,	
	2018	2019	2018	2019
Policy and other operating expenses	\$ 158	\$ 194	\$ 454	\$ 544
Interest expense	(15)	(15)	(44)	(47)
Policy acquisition expenses, net of deferrals	(60)	(63)	(163)	(194)
Integration, restructuring and other non-operating expenses	(2)	(34)	(18)	(46)
Stock compensation expenses	(3)	(3)	(8)	(9)
Total adjustments to arrive at operating expenses	(80)	(115)	(233)	(296)
Operating expenses	\$ 78	\$ 79	\$ 221	\$ 248
Retirement Services	\$ 63	\$ 67	\$ 177	\$ 197
Corporate and Other	15	12	44	51
Consolidated operating expenses	\$ 78	\$ 79	\$ 221	\$ 248

Non-GAAP Measure Reconciliations

Reconciliation of total investments, including related parties to total invested assets

<i>(In millions)</i>	September 30,	
	2018	2019
Total investments, including related parties	\$ 101,346	\$ 127,101
Derivative assets	(2,515)	(2,386)
Cash and cash equivalents (including restricted cash)	3,941	4,032
Accrued investment income	686	781
Payables for collateral on derivatives	(2,315)	(2,323)
Reinsurance funds withheld and modified coinsurance	(123)	(1,698)
VIE and VOE assets, liabilities and noncontrolling interest	835	669
Unrealized (gains) losses	(186)	(4,243)
Ceded policy loans	(285)	(277)
Net investment receivables (payables)	(788)	(516)
Total adjustments to arrive at invested assets	(750)	(5,961)
Total invested assets	\$ 100,596	\$ 121,140

Reconciliation of total liabilities to total reserve liabilities

<i>(In millions)</i>	September 30,	
	2018	2019
Total liabilities	\$ 109,272	\$ 130,657
Long-term debt	(991)	(992)
Derivative liabilities	(124)	(46)
Payables for collateral on derivatives	(2,315)	(2,323)
Funds withheld liability	(389)	(768)
Other liabilities	(1,380)	(1,708)
Liabilities of consolidated VIEs	(2)	(1)
Reinsurance ceded receivables	(5,221)	(5,697)
Policy loans ceded	(285)	(277)
Other	(12)	(20)
Total adjustments to arrive at reserve liabilities	(10,719)	(11,832)
Total reserve liabilities	\$ 98,553	\$ 118,825

