



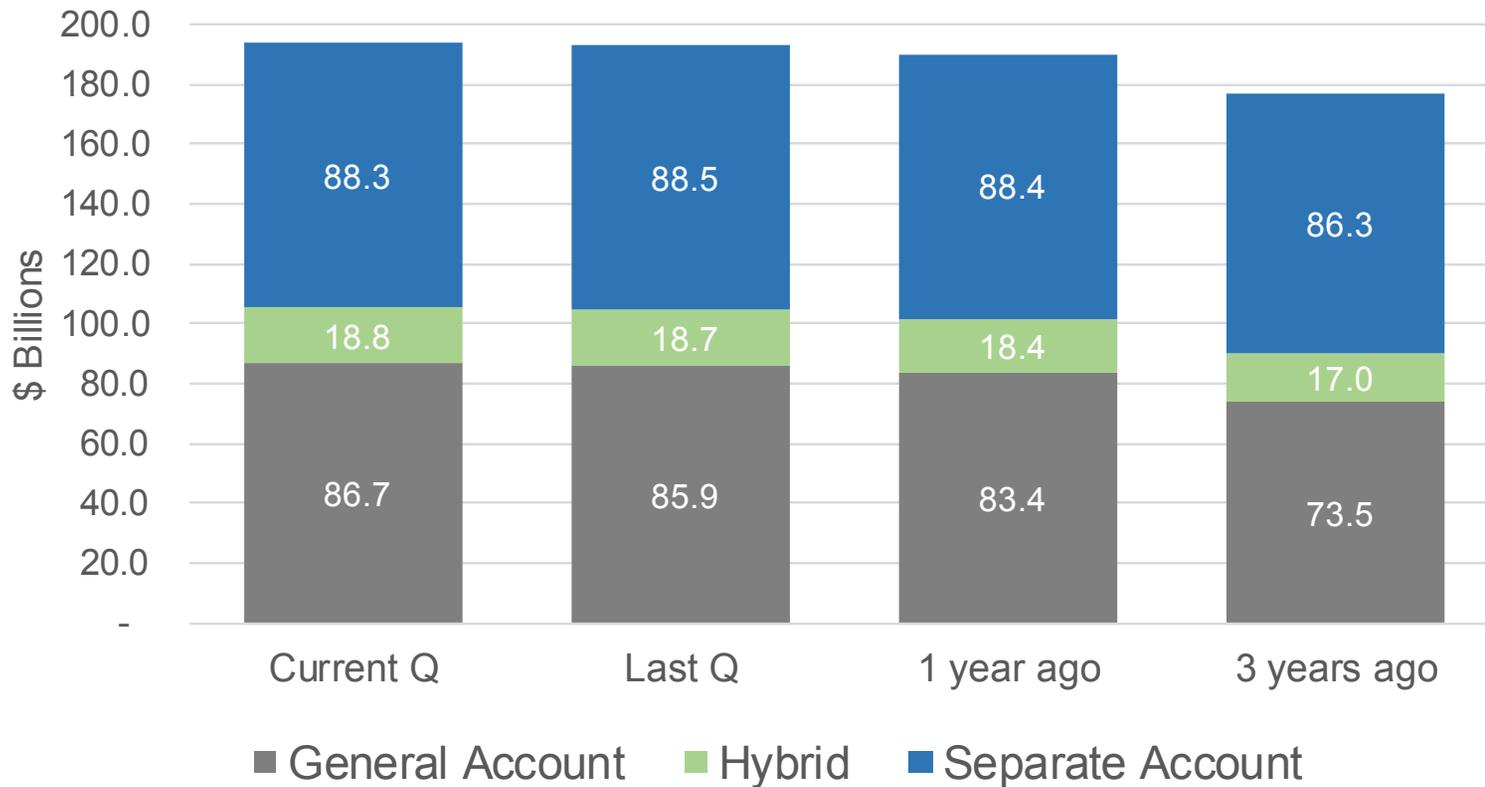
BOLI INDUSTRY ANALYTICS & ALLOCATIONS

Proprietary and Confidential – For Discussion Purposes Only

2018-Q4

BANK CALL REPORT BOLI BREAKDOWN

Banks reported \$193.8 billion of BOLI in 2018-Q4, of which \$88.3 billion was SA.



STUDY PURPOSE AND BACKGROUND

Our study attempts to track how SA BOLI is allocated over time.

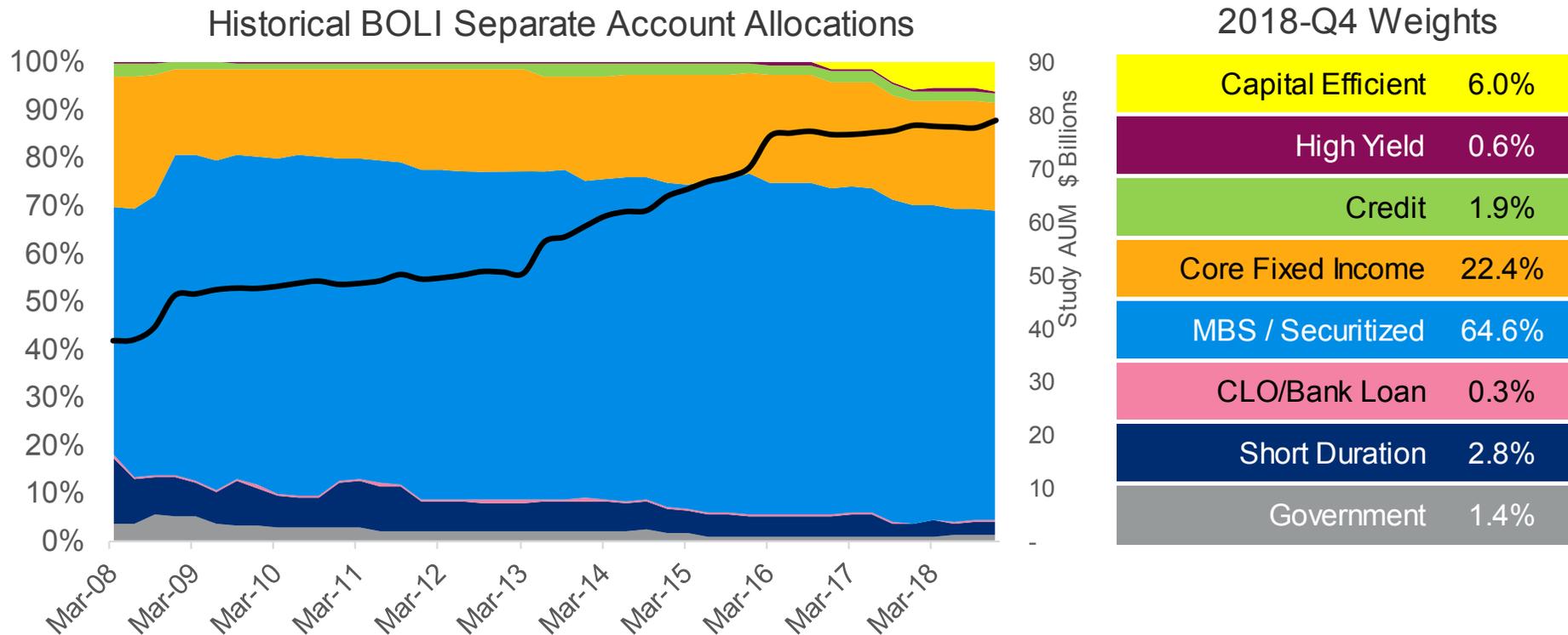
- Gathered SA BOLI AUM data is categorized into portfolio types
 - Capital Efficient / Target RW
 - High Yield
 - Credit
 - Core Fixed Income
 - MBS / Securitized (ABS / CMBS)
 - CLO / Bank Loan
 - Short Duration
 - Government
- Portfolio types represent full portfolio MVs and do not look through to the holdings sector weights

Currently comprises \$78.9 billion – approximately 89% of the industry.¹

HISTORICAL BOLI/COLI SEPARATE ACCOUNT ALLOCATIONS

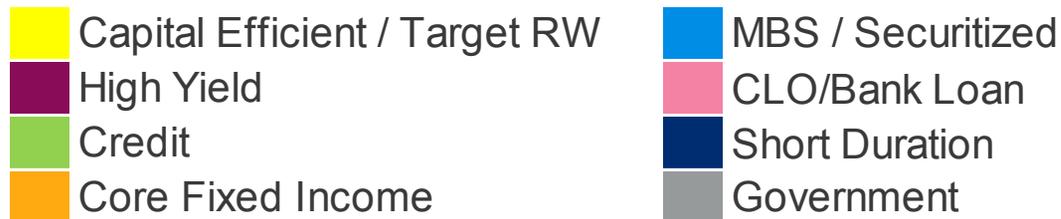
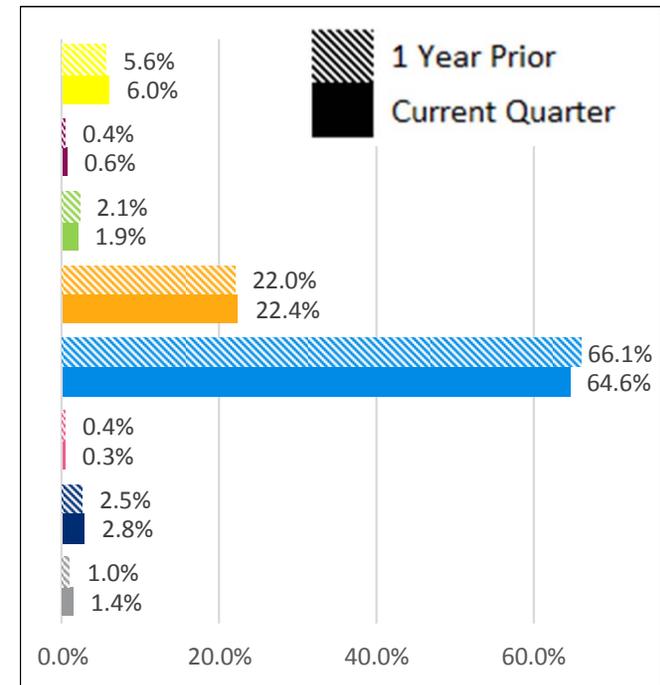
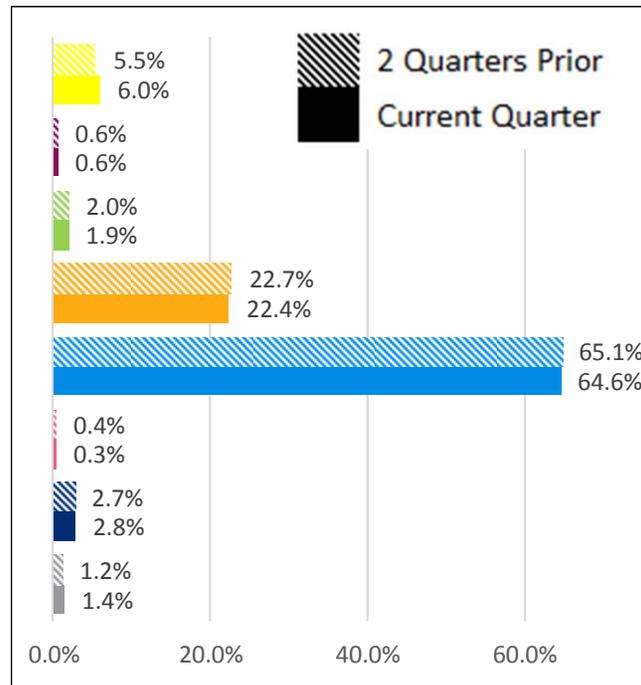
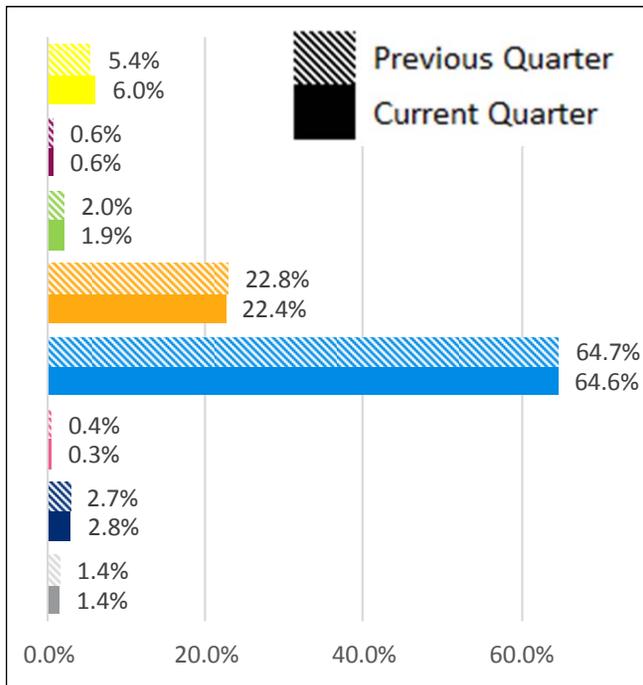
For the last decade, allocations have been dominated by MBS / Securitized portfolios.

- The chart below shows the study's total AUM (black line), and portfolio type breakdown (colored areas) over time.



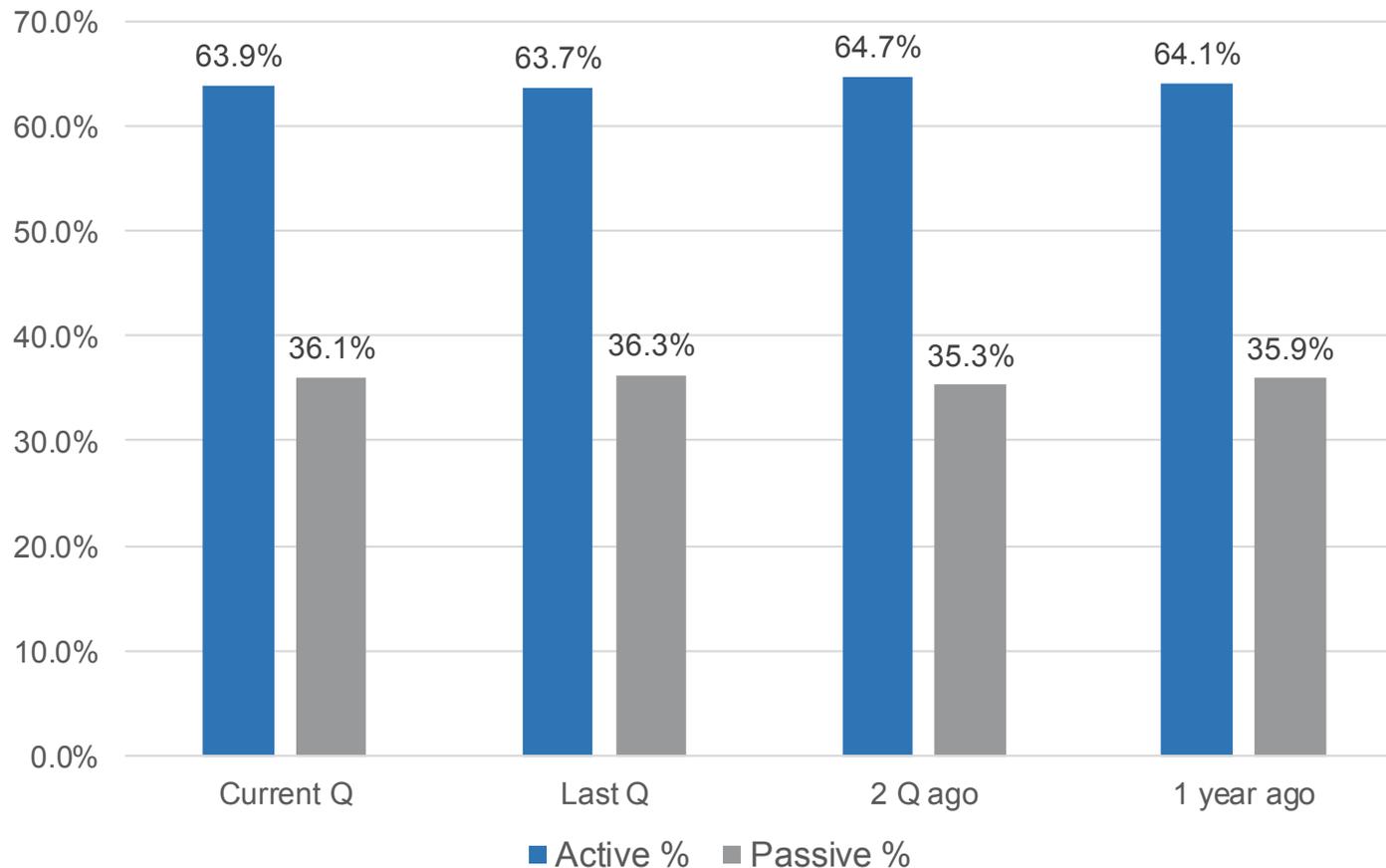
SEPARATE ACCOUNT ALLOCATION CHANGES

While some changes can be attributed to asset growth, periodic comparisons can show potential reallocations.²



BREAKDOWN OF PORTFOLIOS (ACTIVE VS PASSIVE)

Of the \$78.9 billion in the study, 63.9% of the allocations are actively managed.



ALLOCATION COMMON BENCHMARK PERFORMANCE

Using common benchmarks for the categories, a proxy for the industry's SA Q4 MV performance is estimated at 1.71%.

	Benchmark	Quarter	1-Year	3-Year	Weights	Quarter	1-Year	3-Year
Capital Efficient	[Proxied By Blend of Below]	-0.06%	0.68%	2.97%	5.98%	1.71%	0.72%	1.90%
High Yield	<i>Barclays High Yield</i>	-3.34%	-1.70%	5.92%	0.56%			
Credit	<i>Barclays US Credit</i>	0.01%	-2.12%	3.17%	1.93%			
Core Fixed Income	<i>Barclays US Agg</i>	1.64%	0.01%	2.06%	22.39%			
MBS / Securitized	<i>Barclays US MBS</i>	2.08%	0.99%	1.71%	64.57%			
CLO/Bank Loan	<i>CSFB Leverage Loan Index</i>	-3.08%	1.10%	5.01%	0.34%			
Short Duration	<i>ML 90-Day LIBOR</i>	0.58%	2.08%	1.28%	2.83%			
Government	<i>BofA / ML 1-3Y Treasury</i>	1.29%	1.56%	0.95%	1.40%			

CALL REPORT BOLI ANALYTICS

The overall effective RW for SA BOLI was ~40%; however, many banks default to 100%.

- Using the Q4 category weights and proxy portfolios, **MBSA estimates a ~25.7%** effective risk-weight for SA BOLI in our AUM Study using the Basel III Standardized Approach

All Banks

	# of Banks	GA BOLI (\$B)	Hybrid BOLI (\$B)	SA BOLI (\$B)	SA Exposure (\$B)	SA RWA (\$B)	Total RWA / Total Exposure	Average Bank RW%
Current Q	3,476	86.7	18.8	88.3	100.5	40.1	39.9%	91.4%
Last Q	3,513	85.9	18.7	88.5	100.6	40.5	40.3%	90.7%
2 Q ago	3,545	85.1	18.6	88.1	100.2	40.3	40.2%	91.4%
1 year ago	3,610	83.4	18.4	88.4	100.6	40.1	39.8%	90.3%

Bank RW% median and mode were 100% for all periods

\$25B+ Banks

	# of Banks	GA BOLI (\$B)	Hybrid BOLI (\$B)	SA BOLI (\$B)	SA Exposure (\$B)	SA RWA (\$B)	Total RWA / Total Exposure	Average Bank RW%
Current Q	78	51.0	11.8	83.6	89.7	31.7	35.4%	56.3%
Last Q	75	49.8	11.7	83.7	89.6	31.9	35.6%	55.4%
2 Q ago	73	49.3	11.6	83.3	89.3	31.8	35.6%	70.7%
1 year ago	73	48.5	11.4	82.7	88.9	31.6	35.5%	72.6%

For larger banks, the mode Bank RW% is still 100%, but median drops to 35%

FOOTNOTES / DISCLAIMERS

1. The % of industry covered in the study may represent more or less due to various factors;
 - Some of the data included in the study may include portfolios that are comingled with corporations or non-banking entities
 - Some of the missing assets may include equity portfolios, which are excluded from this study
2. “Reallocations” assumed by significant changes in categorical weights without a parallel change in total assets. May or may not reflect any actual reallocation activity.

*Call Report Data may include BHC data from Y-9C Reports

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