



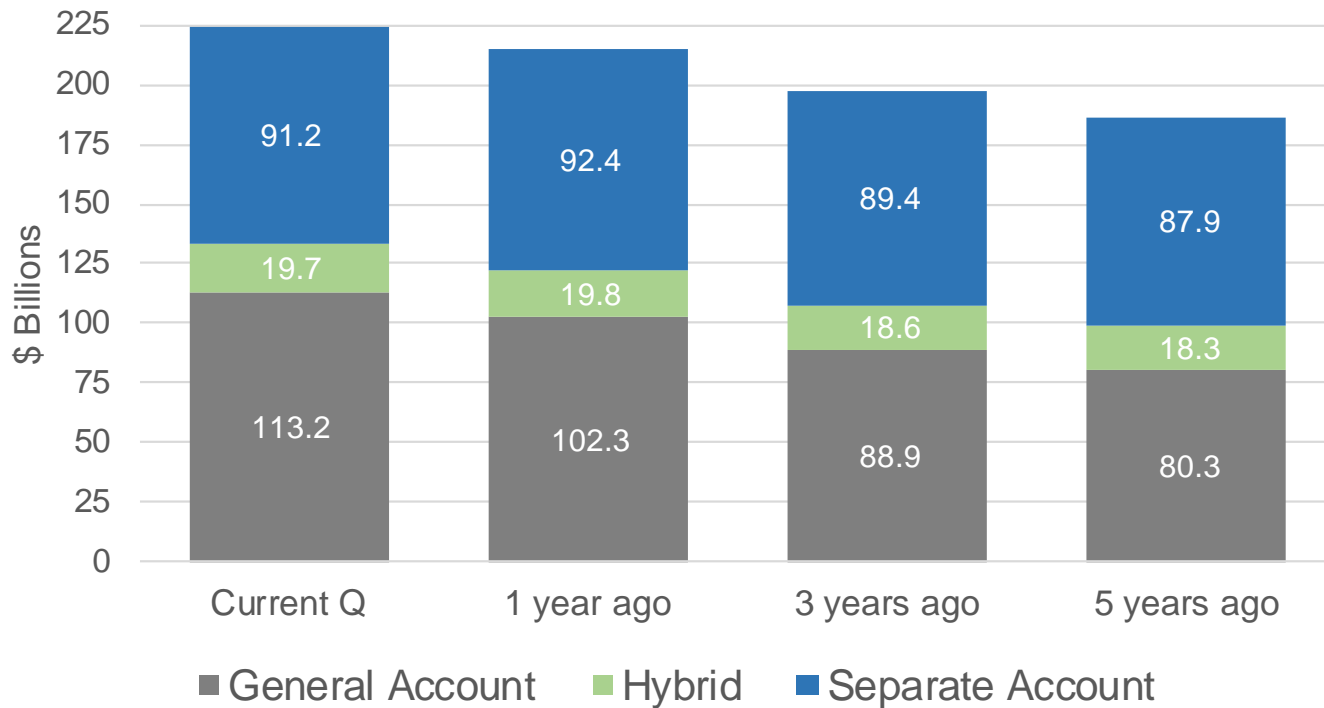
BOLI INDUSTRY ANALYTICS & ALLOCATIONS

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2022-Q2

BANK CALL REPORT BOLI BREAKDOWN

Banks reported \$224.1 billion of BOLI in 2022-Q2, of which \$91.2 billion was SA



STUDY PURPOSE AND BACKGROUND

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

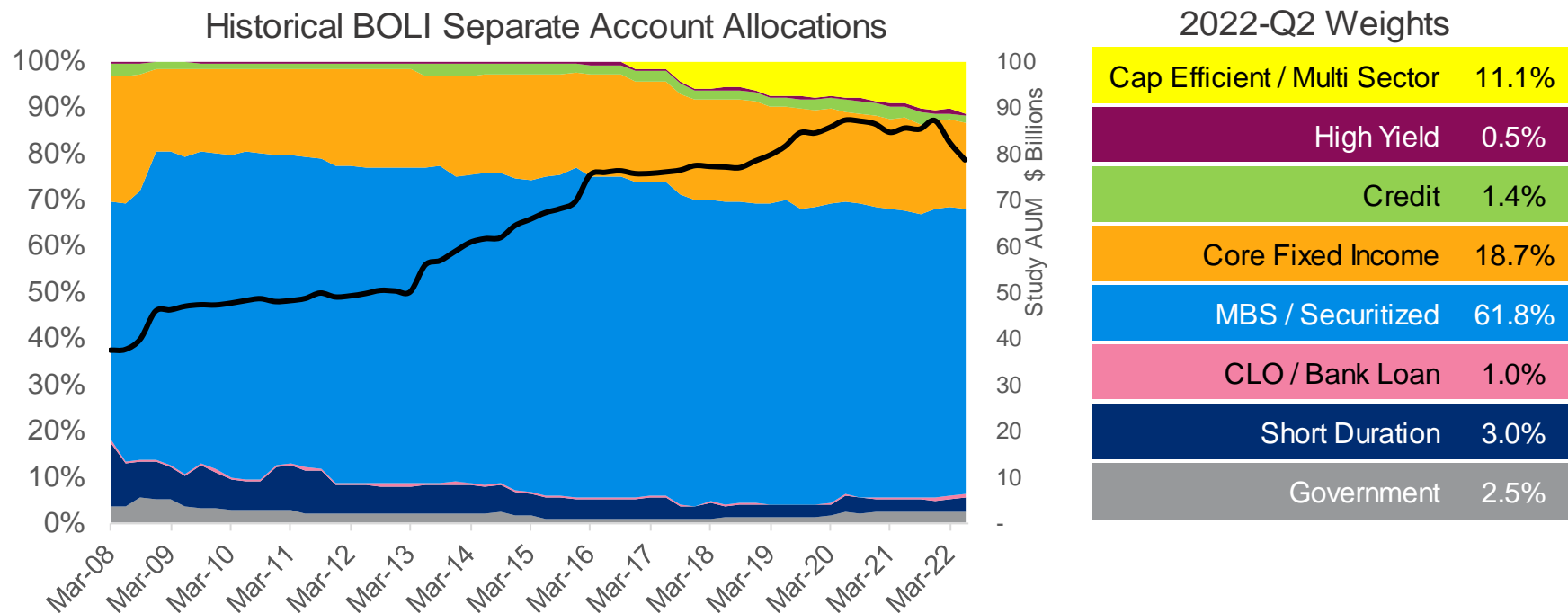
- Gathered SA BOLI AUM data is categorized into portfolio types
 - Capital Efficient / Multi-Sector / Target RW
 - High Yield
 - Credit
 - Core Fixed Income
 - MBS / Securitized (ABS / CMBS)
 - CLO / Bank Loan
 - Short Duration
 - Government
- Portfolio types represent full portfolio MVs and do not look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

Currently comprises \$79 billion – a massive share of the industry¹

HISTORICAL BOLI/COLI SEPARATE ACCOUNT ALLOCATIONS

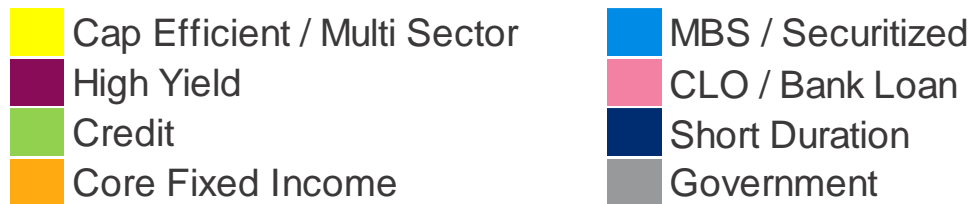
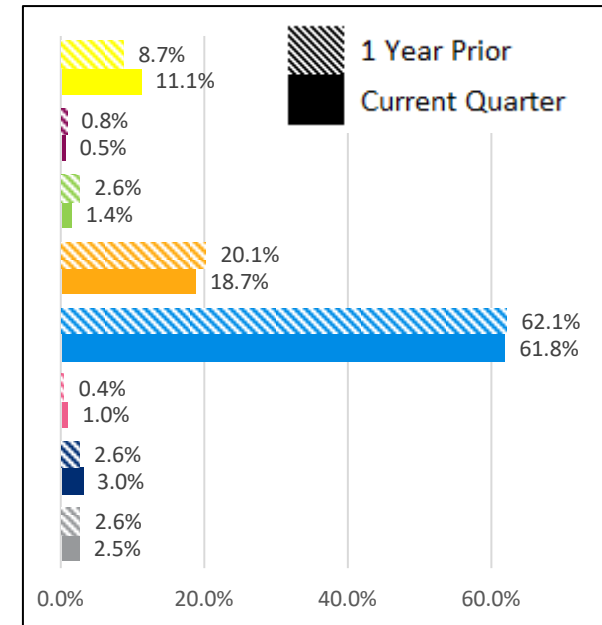
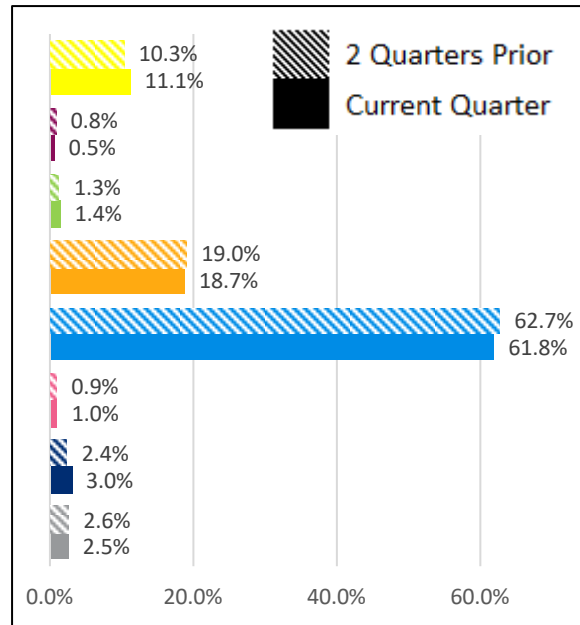
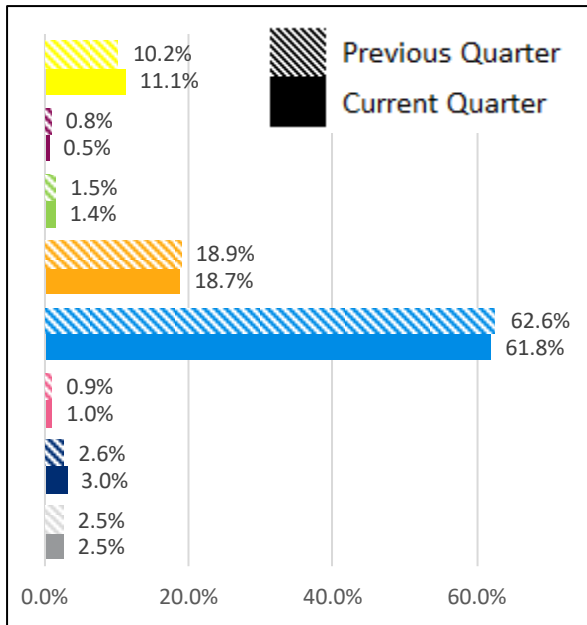
For the last decade, allocations have been dominated by MBS / Securitized portfolios. More recently, capital efficient / multi-sector type portfolios have gained a solid share.

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



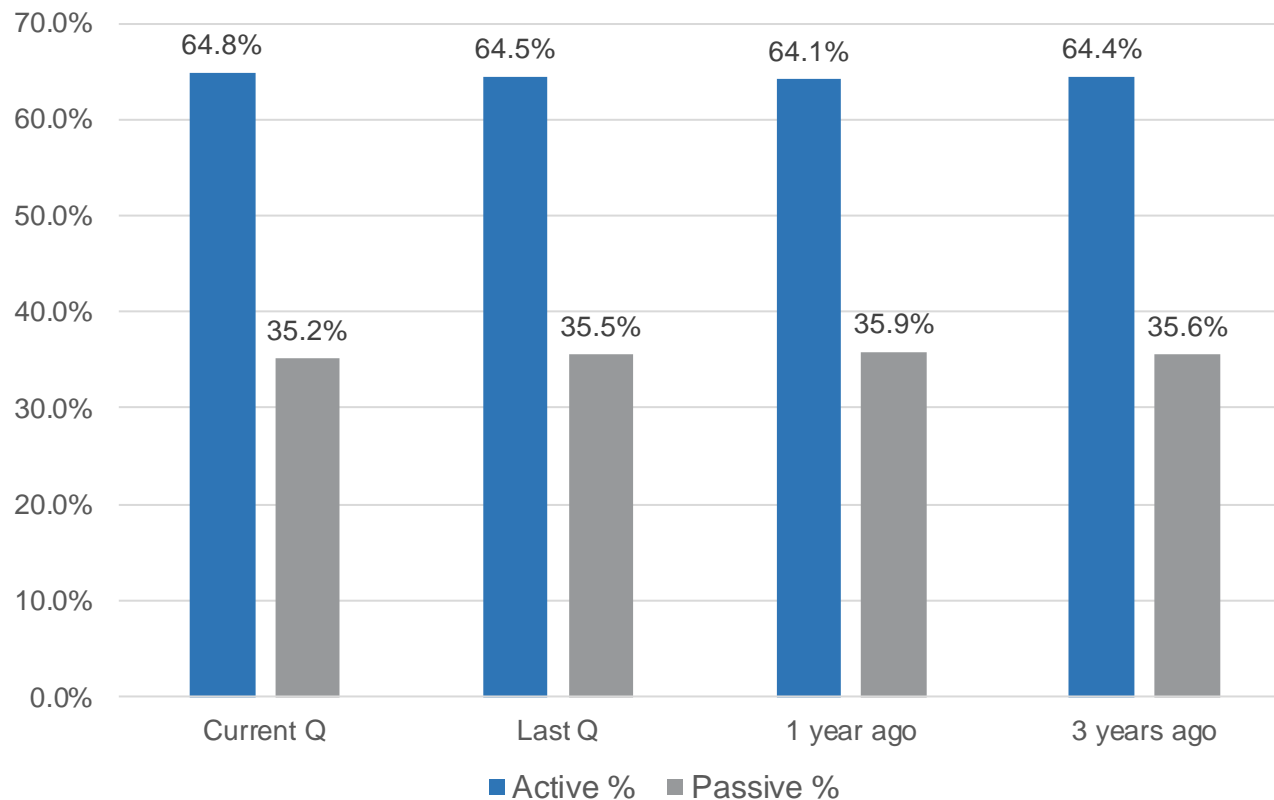
SEPARATE ACCOUNT ALLOCATION CHANGES

While some changes can be attributed to asset growth, periodic comparisons can indicate potential reallocations²



BREAKDOWN OF PORTFOLIOS (ACTIVE VS PASSIVE)

Of the \$79 billion in the study, 65% of the allocations are actively managed



ALLOCATION COMMON BENCHMARK PERFORMANCE

Using common benchmarks for the categories, a proxy for the industry's SA Q2 MV performance is estimated at -3.84% while the stable value proxy was 0.46%

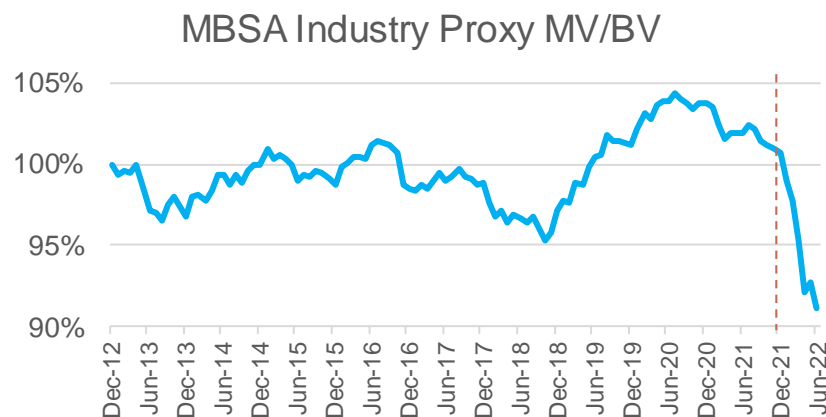
| | Benchmark | Quarter | 1-Year | 3-Year | 5-Year | Weights |
|--|---------------------------------|---------------|---------------|---------------|--------------|---------|
| Cap Efficient / Multi Sector | [Proxied By Blend of Below] | -3.25% | -7.29% | 0.07% | 1.54% | 11.11% |
| High Yield | <i>Bloomberg High Yield</i> | -9.00% | -12.07% | -0.04% | 1.98% | 0.55% |
| Credit | <i>Bloomberg US Credit</i> | -6.90% | -13.64% | -1.00% | 1.24% | 1.38% |
| Core Fixed Income | <i>Bloomberg US Agg</i> | -4.69% | -10.29% | -0.93% | 0.88% | 18.70% |
| MBS / Securitized | <i>Bloomberg US Securitized</i> | -3.90% | -8.97% | -1.33% | 0.46% | 61.83% |
| CLO / Bank Loan | <i>Palmer CLOSE Index</i> | -1.58% | -1.23% | 1.31% | 2.05% | 0.95% |
| Short Duration | <i>ICE BofA USD 3M DOR</i> | 0.05% | 0.05% | 0.80% | 1.30% | 2.97% |
| Government | <i>BofA / ML 1-3Y Treasury</i> | -0.50% | -3.30% | 0.23% | 0.93% | 2.50% |
| Industry Proxy MV Performance using rolling weights: | | -3.84% | -8.69% | -0.93% | 0.74% | |
| Industry Proxy Stable Value Performance: | | 0.46% | 2.01% | 2.32% | 2.40% | |

INDUSTRY MV/BV RATIO DEVELOPMENTS

With rapid yield *increases*, MV/BV ratios have *declined* significantly – putting pressure on SVP contractual thresholds (e.g., approaching write-downs or forced reallocations)

- MBSA requested and compiled market value and book value data from carriers (each provided in the aggregate) to begin monitoring the overall MV/BV ratios of BOLI allocations
- Additionally, using our proxy MV and BV performance monitoring from the prior page, we calculate a proxy overall MV/BV ratio for the industry

| | Carrier Aggregate MV/BV | MBSA Industry Proxy MV/BV |
|------------|--|--|
| 12/31/2021 | 100.9% | 100.9% |
| 3/31/2022 | 95.1% | 95.5% |
| 6/30/2022 | 91.1% | 91.2% |



- As of 2022-Q2, the total MV in the carrier aggregate values above was ~52 billion
- The aggregate carrier ratios compare closely to our industry proxy MV and stable value performance values

CALL REPORT BOLI ANALYTICS

The overall effective RW for SA BOLI was ~41%; however, many banks default to 100%

- Using the Q2 category weights and proxy portfolios, **MBSA estimates a ~27%** effective risk-weight for SA BOLI in our 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 | 3,223 | 113.2 | 19.7 | 91.2 | 103.4 | 42.0 | 40.6% | 90.9% |
| Last Q | 3,238 | 110.3 | 19.8 | 92.4 | 101.5 | 39.5 | 38.9% | 85.7% |
| 1 year ago | 3,277 | 102.3 | 19.8 | 92.4 | 103.4 | 42.5 | 41.1% | 90.2% |
| 3 years ago | 3,413 | 88.9 | 18.6 | 89.4 | 101.9 | 40.2 | 39.4% | 90.7% |

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 | 89 | 69.4 | 13.8 | 87.7 | 95.5 | 35.5 | 37.2% | 58.0% |
| Last Q | 90 | 66.9 | 13.8 | 88.9 | 96.3 | 35.5 | 36.8% | 59.1% |
| 1 year ago | 90 | 61.5 | 13.6 | 88.3 | 95.4 | 36.2 | 37.9% | 60.7% |
| 3 years ago | 77 | 52.8 | 11.9 | 84.7 | 91.3 | 32.0 | 35.0% | 55.9% |

For larger banks, the mode Bank RW% is still 100%, but median drops to ~53%

FOOTNOTES / DISCLAIMERS

1. Regarding industry coverage;
 - 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
 - Data included in the study is Market Value. In bank call reports, wrapped BOLI is reported at Book value.
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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