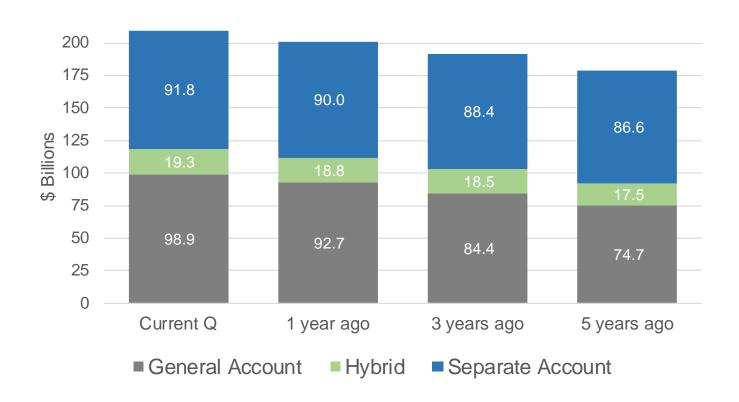


BOLI INDUSTRY ANALYTICS & ALLOCATIONS

BANK CALL REPORT BOLI BREAKDOWN

Banks reported \$210.0 billion of BOLI in 2021-Q1, of which \$91.8 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

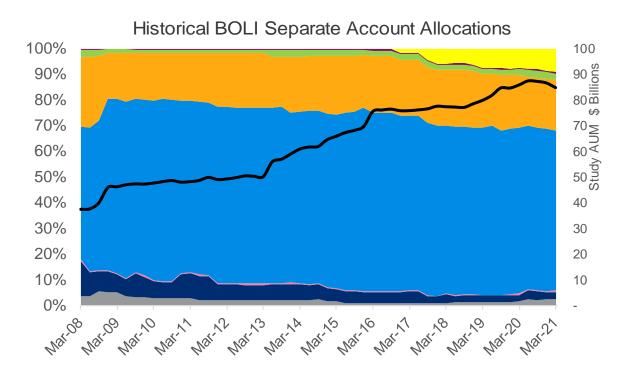
- MBS / Securitized (ABS / CMBS)
- CLO / Bank Loan
- Short Duration
- Government
- Portfolio types represent full portfolio MVs and do not look through to the holdings sector weights

Currently comprises \$85 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 are gaining traction.

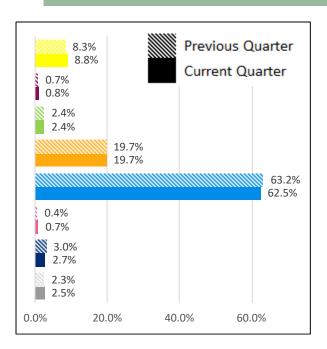
The chart below shows the study's total AUM (black line), and portfolio type breakdown (colored areas) over time.

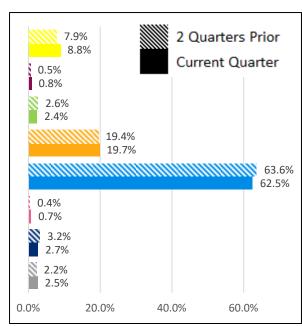


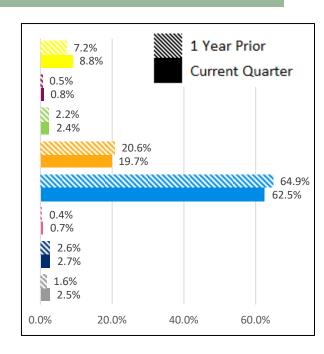
| 2021-Q1 Weights | |
|------------------------------|-------|
| Cap Efficient / Multi Sector | 8.8% |
| High Yield | 0.8% |
| Credit | 2.4% |
| Core Fixed Income | 19.7% |
| MBS / Securitized | 62.5% |
| CLO / Bank Loan | 0.7% |
| Short Duration | 2.7% |
| Government | 2.5% |

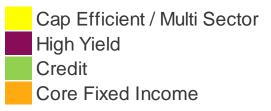
SEPARATE ACCOUNT ALLOCATION CHANGES

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





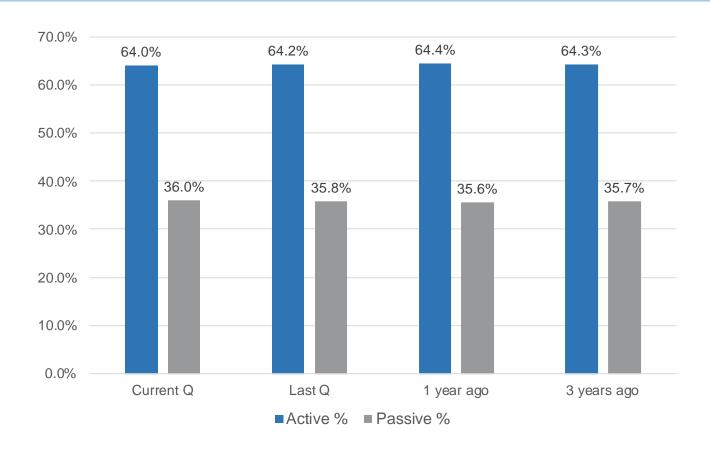






BREAKDOWN OF PORTFOLIOS (ACTIVE VS PASSIVE)

Of the \$85 billion in the study, 64% of the allocations are actively managed



ALLOCATION COMMON BENCHMARK PERFORMANCE

Using common benchmarks for the categories, a proxy for the industry's SA Q1 MV performance is estimated at -1.63%

| Benchmark | | Quarter | 1-Year | 3-Year | 5-Year | Weights |
|--|-----------------------------|---------|--------|--------|--------|---------|
| Cap Efficient / Multi Sector | [Proxied By Blend of Below] | -1.38% | 5.73% | 4.48% | 3.50% | 8.82% |
| High Yield | Barclays High Yield | 0.31% | 20.78% | 7.09% | 7.33% | 0.78% |
| Credit | Barclays US Credit | -4.45% | 7.89% | 5.95% | 4.68% | 2.38% |
| Core Fixed Income | Barclays US Agg | -3.37% | 0.71% | 4.65% | 3.10% | 19.72% |
| MBS / Securitized | Barclays US Securitized | -1.18% | 0.30% | 3.85% | 2.50% | 62.47% |
| CLO / Bank Loan | Palmer CLOSE Index | 0.67% | 7.79% | 3.07% | 3.23% | 0.67% |
| Short Duration | ML 90-Day LIBOR | 0.06% | 0.64% | 1.82% | 1.48% | 2.66% |
| Government | BofA / ML 1-3Y Treasury | -0.05% | 0.24% | 2.76% | 1.70% | 2.51% |
| Industry Proxy MV Performance using rolling weights: | | -1.63% | 1.12% | 4.08% | 2.71% | |
| Industry Proxy Stable Value Performance: | | 0.53% | 2.35% | 2.54% | 2.48% | |

CALL REPORT BOLI ANALYTICS

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

Using the Q1 category weights and proxy portfolios, MBSA estimates a ~28% 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 | 3,274 | 98.9 | 19.3 | 91.8 | 100.4 | 39.7 | 39.5% | 85.1% |
| Last Q | 3,280 | 97.3 | 19.0 | 91.5 | 102.4 | 41.2 | 40.3% | 90.3% |
| 1 year ago | 3,321 | 92.7 | 18.8 | 90.0 | 97.9 | 36.2 | 36.9% | 84.3% |
| 3 years 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 | 91 | 60.4 | 13.2 | 87.7 | 95.1 | 35.8 | 37.6% | 59.2% |
| Last Q | 87 | 59.2 | 12.7 | 87.4 | 94.2 | 34.7 | 36.8% | 57.5% |
| 1 year ago | 83 | 55.6 | 12.3 | 85.7 | 92.2 | 32.2 | 34.9% | 54.4% |
| 3 years 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 ~43%

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
- 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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