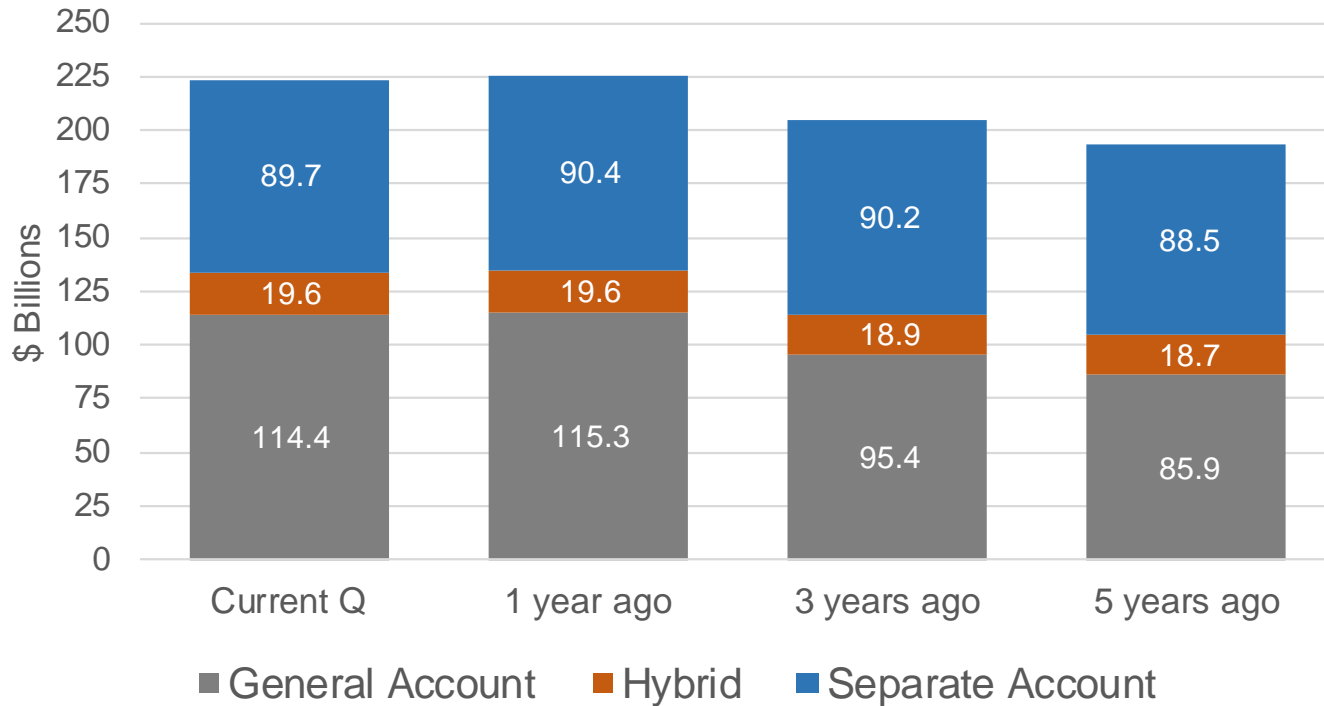


BOLI INDUSTRY ALLOCATIONS & ANALYTICS

BANK CALL REPORT BOLI BREAKDOWN

Banks reported \$223.6 billion of BOLI in 2023-Q3, of which \$89.7 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

The Study currently comprises \$74 billion – a massive share of the industry¹

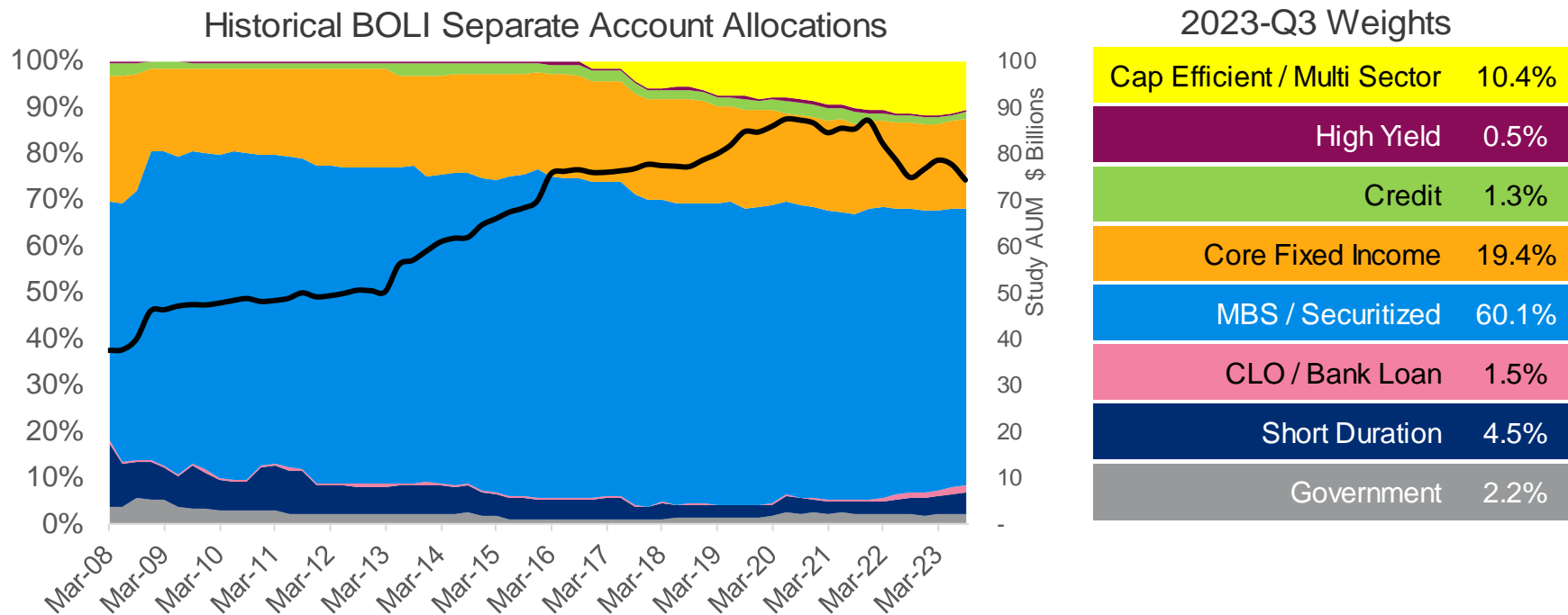
- \$48 billion (64%) of the assets are actively managed

HISTORICAL BOLI/COLI SEPARATE ACCOUNT ALLOCATIONS

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

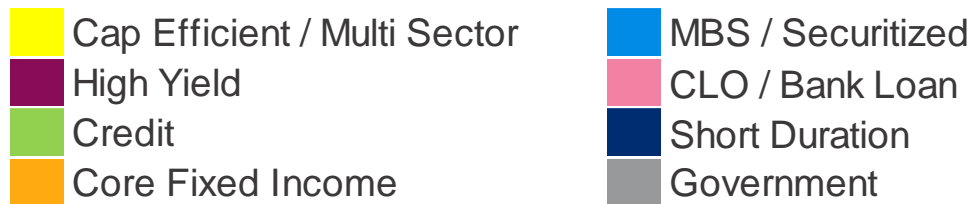
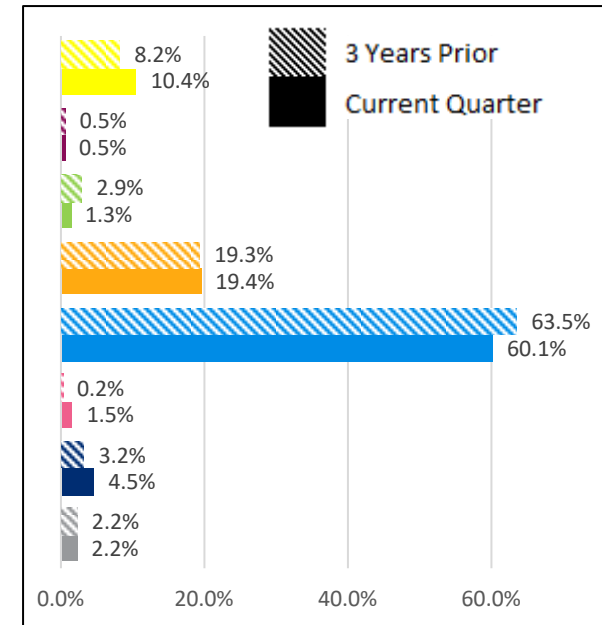
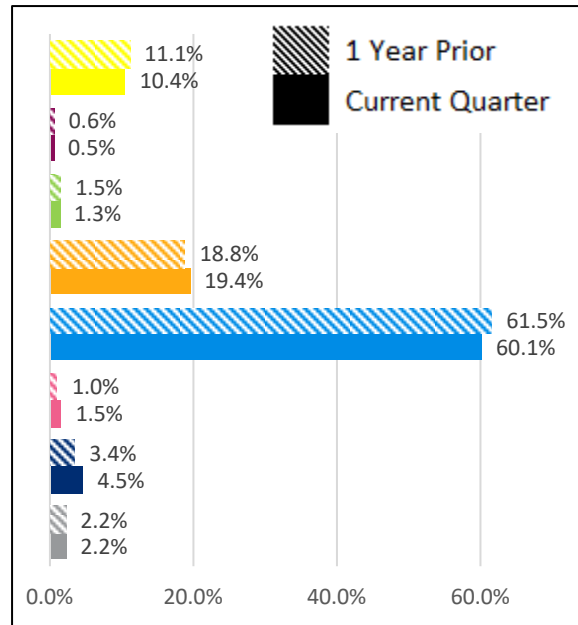
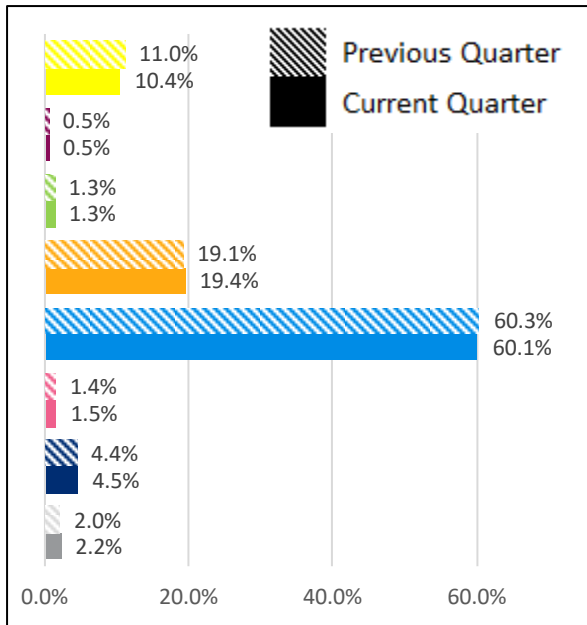
In 2023, MV declines from rising rates saw short-duration increases from both reallocations (forced and voluntary), as well as resilience to the rate increases.

- 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 reallocations or new purchases²



ALLOCATION COMMON BENCHMARK PERFORMANCE

Using common benchmarks for the categories, a proxy for the industry's SA Q3 MV performance is estimated at -3.01% while the stable value proxy was 0.50%

- 1-Year MV performance is estimated at 0.96%, while the stable value proxy was 1.78%

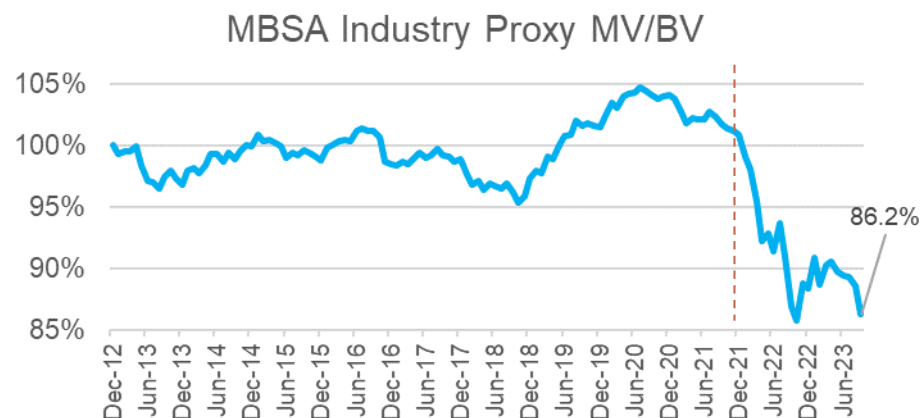
	Benchmark	Quarter	1-Year	3-Year	5-Year	Weights
Cap Efficient / Multi Sector	[Proxied By Blend of Below]	-1.65%	3.32%	-1.93%	1.35%	10.42%
High Yield	<i>Bloomberg High Yield</i>	0.17%	9.40%	0.66%	2.88%	0.48%
Credit	<i>Bloomberg US Credit</i>	-3.01%	3.46%	-4.83%	0.86%	1.30%
Core Fixed Income	<i>Bloomberg US Agg</i>	-3.23%	0.64%	-5.21%	0.10%	19.45%
MBS / Securitized	<i>Bloomberg US Securitized</i>	-3.81%	-0.04%	-4.95%	-0.63%	60.10%
CLO / Bank Loan	<i>JPM AAA CLOIE</i>	2.43%	9.05%	3.36%	3.11%	1.52%
Short Duration	<i>ICE BofA USD 3M DOR</i>	1.37%	4.62%	1.73%	1.87%	4.54%
Government	<i>BofA / ML 1-3Y Treasury</i>	0.74%	2.47%	-0.84%	1.05%	2.18%
Industry Proxy MV Performance using rolling weights:		-3.01%	0.96%	-4.23%	-0.01%	
Industry Proxy Stable Value Performance:		0.50%	1.78%	1.98%	2.21%	

INDUSTRY MV/BV RATIO DEVELOPMENTS

Ratios fell modestly in July and August and very sharply in September. Overall, ratios decreased ~3.2% from Q2 to Q3.

- 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%
9/30/2022	86.5%	86.7%
12/31/2022	88.2%	88.2%
3/31/2023	89.9%	90.2%
6/30/2023	89.1%	89.3%
9/30/2023	85.9%	86.2%



- As of 2023-Q3, the total MV in the carrier aggregate values above was ~49 billion
- The aggregate carrier ratios compare closely to our industry proxy MV and stable value performance values

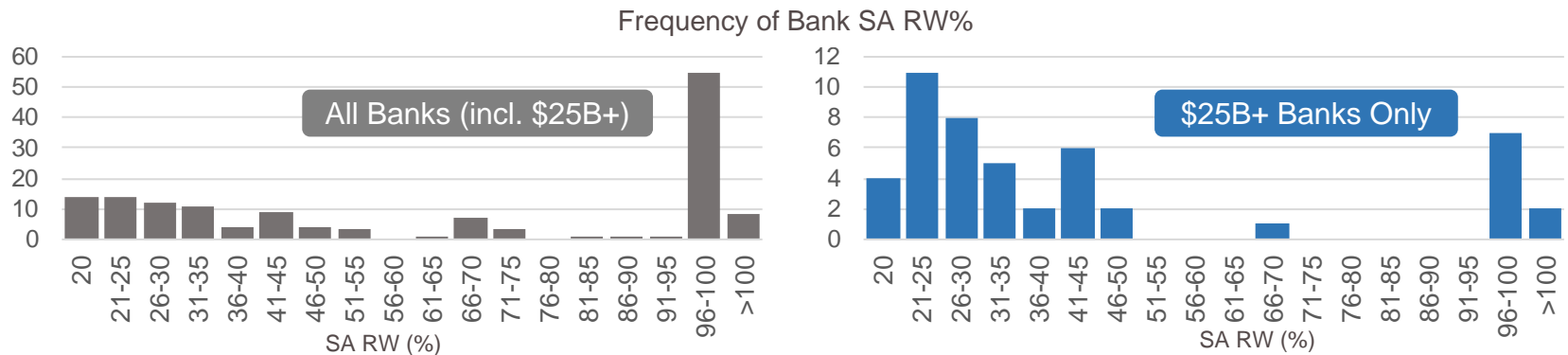
SA BOLI RISK-WEIGHT

Large banks (\$25B+ Assets) own over 95% of SA BOLI, and achieve an average SA RWA% of ~30.2%. Meanwhile, many smaller banks default to 100%.

- Exposure and RWA data from call reports includes Hybrid BOLI. MBSA's process below attempts to calculate the value for SA BOLI only. Based on available parameters³, some banks are excluded.

	Total Banks	Own BOLI	Own SA BOLI	Parameters Available	SA BOLI (\$B)	SA BOLI Only RW %			
						Weighted Average	Average	Mode	Median
All Banks	4,607	3,140	355	157	\$ 87.6	30.7%	70.7%	100%	53%
\$25B+	86	72	58	52	\$ 85.1	30.2%	43.3%	100%	30%

- Using the Q3 category weights and proxy portfolios, MBSA estimates the industry average could be ~27% using the Basel III Standardized Approach.
- The histograms below demonstrate the large banks do mostly achieve RW% between 20%-40%



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.
3. MBSA’s SA RW% process excludes banks that report SA BOLI on Schedule RC-F line 5, but not on Schedule RC-R Part II line 8a.

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

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