THE BOTTOM LINE

BANK-OWNED LIFE INSURANCE (BOLI)

2022 BOLI STATE OF THE UNION

MARCH 2022

HOW WILL BOLI REACT IN A RISING INTEREST RATE ENVIRONMENT?

At the start of 2021, banks faced several challenging economic conditions including declining net interest margins, lower asset yields, and excess liquidity. The unique attributes of Bank-Owned Life Insurance (BOLI) helped banks mitigate these issues leading to an estimated $10.8 billion of BOLI purchased in 2021, representing approximately a 175% increase over estimated new and additional purchases in 2020. While the economic circumstances that drove BOLI sales in 2021 currently remain intact, will BOLI continue to be an attractive investment with interest rates expected to rise?

Here we examine how current, and new, BOLI products may react to a rising interest rate environment.

BOLI 2021 SCORECARD

The following market conditions drove interest in BOLI during 2021 (see Chart #1):

- Declining net interest margins
- Lower asset yields
- Excess liquidity

Chart #1
U.S. Banks—year over year increase

	AVERAGE	MEDIAN
Net Interest Margin	-6.1%	-5.8%
Cash + Interest Bearing Deposits	34%	6.0%
Liquidity Ratio (%)	20.0%	12.1%
Yield on Loans	-2.07%	-2.14%
Yield on Securities	-24.5%	-22.2%

Source: S&P Global Market Intelligence

BOLI purchases not only increased in number over 2020, but the estimated size of each sale increased materially as well (see Chart #2).

Chart #2
2021 Estimated BOLI Purchases > $1M

TYPE	#	TOTAL PREMIUM ($000)	AVERAGE PREMIUM ($000)	MEDIAN PREMIUM ($000)
New	73	$725,116	$9,933	$5,025
Additional	537	10,089,677	18,789	3,890
Total	610	10,814,793	17,729	4,128
% Change from 2020	56%	175%	77%	23%

Source: S&P Global Market Intelligence

Total BOLI cash surrender value for all US banks as of 12/31/21 was $195.6 billion and, for those banks that own BOLI, the average BOLI holdings as a percent of capital was 15.93%. Chart #3 breaks out banks that own BOLI by asset size.

Chart #3
US Banks - BOLI Peer Analysis (as of 12/31/21)

		Banks with BOLI		Averages for Banks with BOLI				
Asset Size	**Total Banks**	**#**	**%**	**Assets ($000)**	**Capital ($000)**	**BOLI CSV ($000)**	**% BOLI to Capital**	**% BOLI to Assets**
$20+ Billion	100	80	80%	$210,739,298	$18,167,376	$1,846,374	10.2%	0.9%
$10-20 Billion	55	43	78%	14,664,816	1,351,271	188,154	13.9%	1.3%
$5-10 Billion	112	92	82%	6,972,611	683,873	98,180	14.4%	1.4%
$1-5 Billion	695	583	84%	2,025,731	203,413	28,725	14.1%	1.4%
$750-999 Million	279	217	78%	875,633	90,998	13,838	15.2%	1.6%
$500-749 Million	480	375	78%	615,312	62,106	9,522	15.3%	1.5%
$250-499 Million	1,058	756	71%	360,517	38,164	6,041	15.8%	1.7%
$100-249 Million	1,228	749	61%	169,075	18,496	2,974	16.1%	1.8%
<$100 Million	844	330	39%	65,732	7,730	1,347	17.4%	2.0%
TOTALS	4,851	3,225	66%					

Source: S&P Global Market Intelligence

In 2021 banks average yield on securities was 1.68%, average liquidity ratio was 37.43%, and average cash/cash equivalents as a percent of assets was 14.3%. Typical general account BOLI products offered crediting rates ranging from 2.65-3.05%. The typical bank's financial situation combined with the yields offered by BOLI (made even more attractive by its tax status: tax-deferred income, tax-free income if held until death), led to a significant rise in BOLI sales.

As we begin 2022, the same economic conditions exist that made BOLI an attractive investment in 2021, but will BOLI continue to be an attractive investment with an expected rise in interest rates?

2022 AND RISING INTEREST RATES

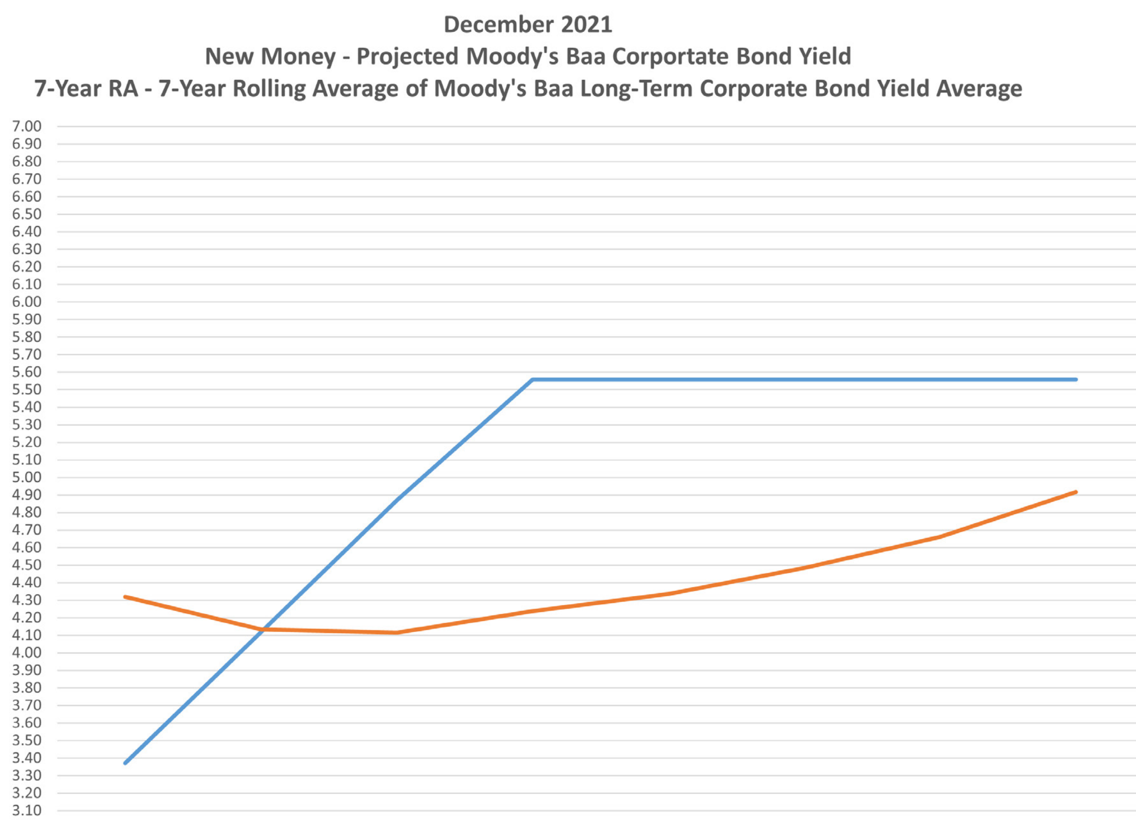
With inflation at a 40-year high, the Federal Reserve appears to be ready to raise rates. Many predict the Fed will raise its key interest rate three times in 2022, likely starting in March, and ending the year at 75-125 basis points. This is welcome news to most bankers and many of them are asking how BOLI will react to rising rates as they prepare to deploy their liquidity and capital in this new rate environment.

General account BOLI crediting rates usually track general interest rates, but they likely won't react immediately to a rate increase. The typical general account portfolio is largely invested in fixed income assets and insurance companies set their crediting rates based on the current and anticipated performance of their portfolio.

The Baa Corporate Bond Yield, a new money rate, is a good representation of a typical insurance company investment and the 7-year rolling average represents a proxy insurance carrier portfolio yield with assets turning over with time as illustrated in Chart #4 (this assumes a 150 bps rate hike spread over 2 years and then flattening). You can see that the rolling average follows rate increases, but with a lag. This isn't exactly what BOLI crediting rates will do but offers a general picture of how we see BOLI crediting rates reacting to increasing interest rates.

If interest rates do in fact rise, we anticipate BOLI crediting rates to rise as well. Some BOLI providers are also preparing themselves for this change in rates by re-positioning their BOLI general account investments with partial exposure to new money rates in order to be more reactive to rising rates. In fact, BOLI providers have already announced 2022 crediting rate increases as of this publication date.

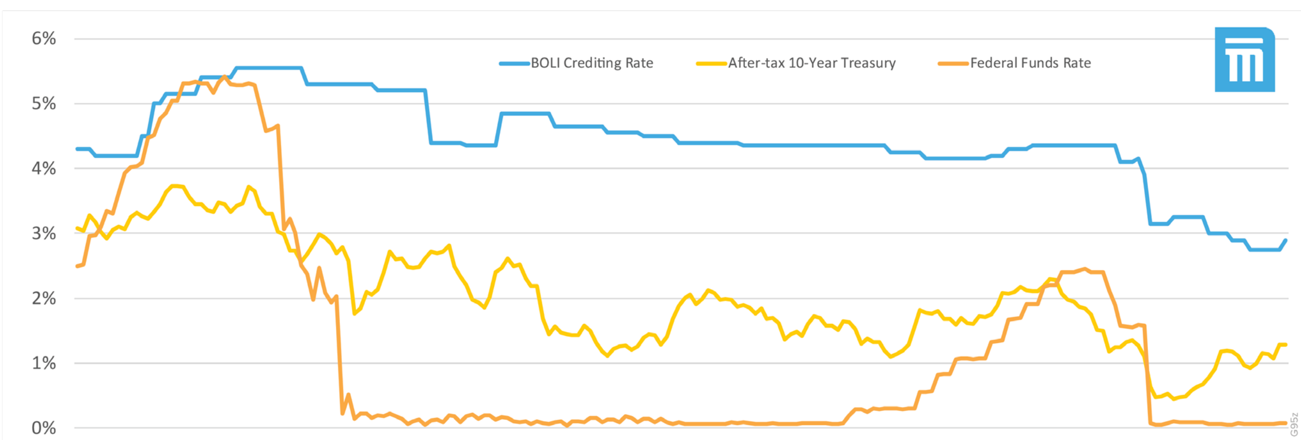
Chart #4
Moody's Baa Corporate Bond Yield
New Money Rates vs. 7-Year Rolling Average



	0	1	2	3	4	5	6	7
New Money	3.37	4.12	4.87	5.56	5.56	5.56	5.56	5.56
7-Year RA	4.32	4.13	4.12	4.24	4.34	4.48	4.66	4.92

While we can't predict future rate changes, we are confident that BOLI crediting rates will follow rates higher in a rising rate environment. This is supported by the historical performance of BOLI, as seen in Chart #5. The chart shows a sample BOLI carrier's crediting rate versus after-tax 10-year treasury yield and the Federal Funds Rate. Notice the years where interest rates (Fed Funds) rose, 2005-2007, BOLI crediting rates rose as well. And when rates fell, BOLI followed along, although they held on higher for longer and fell less drastically, and always kept a measurable spread versus the 10-year Treasury.

Chart #5
BOLI Historical Crediting Rates vs After-Tax 10-Year Treasury and Federal Funds Rate



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
BOLI	4.50%	5.40%	5.55%	5.30%	5.20%	4.35%	4.65%	4.55%	4.40%	4.35%	4.35%	4.25%	4.20%	4.35%	4.10%	3.25%	2.75%	2.90%
10 Yr	3.26%	3.33%	2.99%	1.77%	2.62%	2.40%	1.45%	1.26%	2.12%	1.61%	1.64%	1.82%	1.75%	2.07%	1.36%	0.68%	1.07%	1.28%
Fed Funds	4.09%	5.17%	3.06%	0.14%	0.05%	0.13%	0.04%	0.09%	0.07%	0.06%	0.20%	0.55%	1.33%	2.40%	1.55%	0.09%	0.07%	0.08%

Source:
BOLI Crediting Rate. Representative non-variable BOLI product
After-Tax 10-Year Treasury. Board of Governors of the Federal Reserve (U.S.)
Federal Funds Rate. Board of Governors of the Federal Reserve (U.S.)

In contrast to other fixed income securities that a bank may typically invest in, BOLI has some advantages in a rising rate environment. While bond yields rise, any new bond purchase a bank makes will most likely lose value as rates rise (and the loss could be detrimental if rates rise quickly); see hypothetical bond stress test in Chart #6. In this example, if you bought a $10 million bond essentially at par, a 100 bps rate hike would hypothetically decrease the value of the asset by $932,877. While never guaranteed, BOLI does not generally react to rate changes as bonds do and will not lose principal value as rates rise. BOLI doesn't face the same interest rate, or price risk, that is inherent with typical available-for-sale bonds. BOLI carriers carry investments in their general account at book value (much like a bank's held-to-maturity assets) and are allowed to amortize any realized gains or losses from sales. This allows them to provide a very non-volatile, smooth, crediting rate to the bank. General account BOLI also offers a guaranteed crediting rate floor, in the 1-2% range, as well as death benefit coverage.

Chart #6
Bond Stress Test Example

CUSIP:	SAMPLE: General Obligation Bond	
Moody's Rating:	AA2	
Purchase Amount:	$10,000,000	
Coupon:	1.00%	
Face/Par Value:	100.00	
# of payments/year:	1.00	
Maturity:	3/1/2030	
Issue Date:	11/3/2020	
Settlement Date:	11/5/2020	
# of periods to maturity:	9	
Next Par Call:	3/1/2029	@100
Assumed Current Price:	99.998	
	=PRICE (settle date, maturity date, coupon, current yield, face value, pmt per year)	
Assumed Current Market Yield:	1.00%	
Yield to Maturity:	1.00%	
	=YIELDMAT (settle date, maturity date, issue date, coupon, current price)	

INTEREST RATE CHANGE (BPS)	PRICE CHANGE	PRICE	MKT YIELD	GAIN/LOSS ($)
-300	28%	$127.98	-1.74%	$2,798,630
-200	19%	118.66	-0.91%	1,865,753
-100	9%	109.33	0.00%	932,877
-50	5%	104.66	0.49%	466,438
0	0%	100.00	1.00%	—
50	-5%	95.33	1.54%	(466,438)
100	-9%	90.67	2.11%	(932,877)
200	-19%	81.34	3.36%	(1,865,753)
300	-28%	72.01	4.79%	(2,798,630)

Stress Test Assumptions

- Interest Rate Change = Y%
- Bond Price Change = Y% x each year until maturity (opposite direction of interest rate change)

Source: www.municipalbonds.com

BOLI PRODUCT OUTLOOK

Prior to 2022, we had been in a protracted low-to-no interest rate environment. In this environment general account BOLI held up well, offering a meaningful, positive spread versus a bank's permissible investment alternatives.

For 2022 and beyond, general account BOLI products are still well positioned for positive spreads and will likely react to rising rates, as explained above. Note, a few prominent providers limited, or closed, their supply of BOLI in 2021 due to high demand and continued low rates, in order to protect their portfolio. However, given the rate outlook, carriers are opening up supply again in 2022 and we anticipate higher crediting rates going forward.

Through this long, low interest rate environment, separate account BOLI hasn't fared as well as general account. Legacy separate account BOLI products have underlying funds made up of the same low-yielding bank permissible investment options and the return profile has not been competitive for quite some time. Moreover, most separate account BOLI products were stable value wrapped in contracts that were expensive and inflexible. However, there are some positive developments in separate account BOLI:

- New stable value structures allow for reallocation between several investment options and provide for less onerous crawl outs
- New fund options provide non-traditional underlying investments ranging from funds with higher return profiles to variable/floating rate funds more reactive to rising rates

BOLI proved to be a preferred asset in 2021 for banks struggling to find yield with excess liquidity as it provided immediate accretive tax-deferred earnings (tax-free, if held until death), and a meaningful positive spread against other bank permissible investments. Early in 2022, banks continue to enjoy record-level liquidity but, with rising rates, likely will have more alternatives to put that money to work. Nevertheless, we expect that BOLI will remain an attractive investment for banks.

We expect BOLI to continue to provide competitive returns as interest rates rise. In addition, new BOLI product options coming to market should offer a variety of alternative investment offerings that will provide banks with competitive investment options while maintaining the favorable BOLI tax structure.

For more information and to get a customized BOLI Impact report for your bank, please contact John Gagnon at jgagnon@bolicoli.com; 781.942.5700.

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