THE IMPACT OF THE RECENT RBC FACTOR CHANGES & WHY CONVERTIBLE BONDS REMAIN A CAPITAL-EFFICIENT SOLUTION

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A CAPITAL EFFICIENT, CUSTOMIZABLE SOLUTION TO MEET THE SPECIFIC NEEDS OF INSURANCE PORTFOLIOS

Due to the unprecedented monetary policy by the Federal Reserve in recent years, interest rates are at extremely low levels throughout the yield curve. This has created extraordinary challenges for the insurance industry, which relies heavily on high quality fixed income investments. The Bloomberg U.S. Aggregate Bond Index currently yields only 2.11%,[1] compared to its 44-yr average of 6.4%. It is a near certainty that fixed income returns going forward will be significantly lower than the returns enjoyed from the long bond bull market that has persisted for over 40 years.

In an environment of historically low interest rates, risk-averse insurers feel increasingly challenged generating adequate returns to cover their liabilities utilizing only high quality fixed income assets. Despite the recent regulatory changes by the National Association of Insurance Commissioners (NAIC), convertibles provide an attractive option for meeting these targets. Convertibles participate in the upside of the equity market in a risk-controlled fashion, provide a competitive yield advantage, and, most importantly, all while being highly efficient in the deployment of capital for an insurance company.

After Significant Changes to Risk-Based Capital (RBC) Factors, Convertible Bonds Remain a Highly Capital-Efficient Solution

As of year-end 2021, significant changes went into effect for insurers' Risk-Based Capital (RBC) C-1/R-1/H-1 factors. These changes have introduced a more granular schedule of risk charges for bonds in insurers' RBC formula by expanding the number of NAIC designations from 6 to 20. The NAIC designations are based on bonds' nationally recognized statistical ratings organization (NRSRO) ratings. Under the old system, an A-rated bond would be categorized as NAIC 1 and receive the same capital treatment as a AAA-rated bond. While market participants have long recognized the difference in the risk profile of a AAA-rated bond relative to that of an A-rated bond, the NAIC asset risk structure did not reflect the difference. This made A-rated corporate securities a capital-efficient asset for insurance companies relative to AAA-rated assets, given their higher yield for the same capital charge. However, the new NAIC asset risk structure reflects the corresponding credit risk differences.

The table below compares the old factors to the newly approved risk factors:

RBC C-1/R-1/H-1 Capital Charges: New vs. Current

			Pre-Tax Factors								
Bond Rating	NAIC Designation		Life (C-1)			P&C (R-1)			Health (H-1)		
	Prior	New	Prior %	New %	Difference	Prior %	New %	Difference	Prior %	New %	Difference
AAA	1	1.A	0.39	0.16	-0.23	0.30	0.20	-0.10	0.30	0.30	0.00
AA+		1.B	0.39	0.27	-0.12	0.30	0.40	0.10	0.30	0.50	0.20
AA		1.C	0.39	0.42	0.03	0.30	0.60	0.30	0.30	0.80	0.50
AA-		1.D	0.39	0.52	0.13	0.30	0.80	0.50	0.30	1.10	0.80
A+		1.E	0.39	0.66	0.27	0.30	1.00	0.70	0.30	1.40	1.10
A		1.F	0.39	0.82	0.43	0.30	1.30	1.00	0.30	1.60	1.30
A-		1.G	0.39	1.02	0.63	0.30	1.50	1.20	0.30	1.90	1.60
BBB+	2	2.A	1.26	1.26	0.00	1.00	1.80	0.80	1.00	2.20	1.20
BBB		2.B	1.26	1.52	0.26	1.00	2.10	1.10	1.00	2.50	1.50
BBB-		2.C	1.26	2.17	0.91	1.00	2.50	1.50	1.00	3.10	2.10
BB+	3	3.A	4.46	3.15	-1.31	2.00	5.50	3.50	2.00	6.90	4.90
BB		3.B	4.46	4.54	0.08	2.00	6.00	4.00	2.00	7.60	5.60
BB-		3.C	4.46	6.02	1.56	2.00	6.60	4.60	2.00	8.30	6.30
B+	4	4.A	9.70	7.39	-2.31	4.50	7.10	2.60	4.50	8.90	4.40
B		4.B	9.70	9.54	-0.16	4.50	7.70	3.20	4.50	9.70	5.20
B-		4.C	9.70	12.43	2.73	4.50	8.70	4.20	4.50	11.00	6.50
CCC+	5	5.A	22.31	16.94	-5.37	10.00	9.80	-0.20	10.00	12.30	2.30
CCC		5.B	22.31	23.80	1.49	10.00	10.90	0.90	10.00	13.70	3.70
CCC-		5.C	22.31	30.00	7.69	10.00	12.00	2.00	10.00	15.10	5.10
Below CCC-	6	6	30.00	30.00	0.00	30.00	30.00	0.00	30.00	30.00	0.00

Source: NAIC. Information as of December 31, 2021.

Due to their seniority in the capital structure and principal protection, convertible bonds are reported in Schedule D – Part 1 and are categorized as bonds for insurers' Risk-Based Capital (RBC) C-1/R-1/H-1 factors. Convertible preferreds, for additional context, are reported in Schedule D – Part 2 with a correspondingly accommodative schedule. Therefore, and as shown in the table below, the Risk-Based Capital factors for investment grade convertible bonds and convertible preferreds are a small fraction of the corresponding charge for common stocks.

Fixed Income Assets				
Bond Rating	**NAIC Designation**	**Life %**	**P&C %**	**Health %**
AAA - A-	1.A - 1.G	0.16 - 1.02	0.20 - 1.50	0.30 - 1.90
BBB+ - BBB-	2.A - 2.C	1.26 - 2.17	1.80 - 2.50	2.20 - 3.10
BB+ - BB-	3.A - 3.C	3.15 - 6.02	5.50 - 6.60	6.90 - 8.30
B+ - B-	4.A - 4.C	7.39 - 12.43	7.10 - 8.70	8.90 - 11.00
Equity Assets				
Type of Equity		**Life %**	**P&C %**	**Health %**
Common Stock	-	45	15	15

Source: NAIC. Information as of December 31, 2021.

The RBC changes do not impact in any meaningful way the high capital efficiency of convertible bonds, specifically relative to equities.

Convertibles Provide Equity-Like Returns with Less Volatility

In comparison with their underlying stock, convertibles generally provide higher yields, greater downside protection, and seniority over common equity in the capital structure. They have a favorable asymmetric risk profile, with the ability to capture more equity market upside than downside. As a result, convertibles offer superior risk-adjusted returns compared with equities over full market cycles.

The table below presents the historical risk-adjusted returns for the US market:

20 Years: US Risk-Adjusted Returns	Annualized Return	Standard Deviation	Sharpe Ratio
BofA All US Convertible Index (VXA0)	**9.24%**	**12.20%**	**0.66**
BofA Investment Grade Convertible Index (V0S1)	**8.28%**	**9.07%**	**0.78**
S&P 500	9.52%	14.61%	0.62
Russell 2000	9.35%	19.45%	0.46

Source: Bloomberg; SSI internal research. The above data was presented through 12/31/2021.

Performing Well in Rising Rate Environments

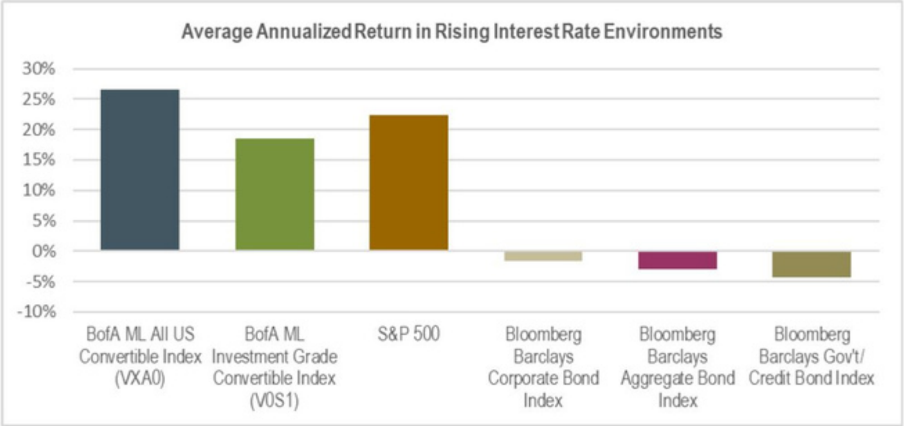
Convertibles significantly outperform their fixed income counterparts in rising rate environments. This is primarily due to two factors. First, equities provide much better protection in periods of rising interest rates, appreciating in nominal terms as they represent a participatory interest in a real business. The equity option embedded in convertible bonds appreciates in a similar manner, participating in the upside of the underlying equity. Second, the effective duration of convertibles is very low relative to most fixed income assets.

Index	Duration
BofA Investment Grade Convertibles (V0S1)	1.09
BofA All US Convertibles (VXA0)	1.87
Bloomberg Barclays U.S. Aggregate Bond Index	6.86
Bloomberg Barclays U.S. Corporate Bond Index	8.66

Source: Bloomberg 12/31/2021.

This leads to a relatively small downside impact resulting from a rise in interest rates. That impact is partially offset by an increase in value of the underlying equity and the benefit to the valuation of the embedded equity call option from a rise in rates.

The result is that, in periods of rising rates, convertibles have historically provided positive returns to investors and have been one of the best performing asset classes, while most fixed income asset assets have led to losses



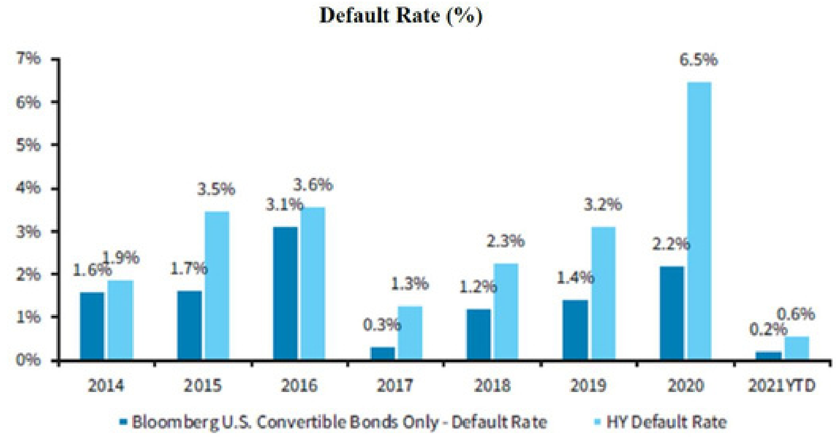
Source: SSI internal research; BofA Convertible Research; Bloomberg; Barclays. Rising interest rate environment periods based on SSI internal research/evaluation where the 10-Year Treasury rises at least 100 bps in a twelve-month rolling period. Full date ranges are located in the "Notes" section at the end of the document.[3]

Low Correlation to Fixed Income, While Providing Significant Sector Diversification Relative to High Yield

Convertibles have a low correlation to other fixed income securities. There is a diversification benefit to a portfolio heavily weighted in high quality bonds. Issuers of convertible bonds represent a diverse range of market capitalization and industry groups. Convertibles have a solid representation of structural growth companies in the Technology and Healthcare space that are disruptors with large addressable markets and potential for long-lasting high growth rates. Accordingly, they also provide significant sector diversification to a high yield portfolio. Recently, cyclical companies in sectors such as Consumer Discretionary, Industrials, and Transportation have provided additional attractive investment opportunities in the convertible market.

Convertibles Have a Strong Credit Profile

Convertible bonds have consistently had a lower default rate than the high yield bond market. The average default rate for convertible bonds going back to 2003 is only 1.36%. According to Barclays, only 0.32% of the current convert market is in the distressed segment.



Source: Barclays Research, Moody's as of 10/29/2021.

Summary

Adding convertible bonds to an insurance portfolio has many potential benefits:

- Highly capital-efficient from an RBC perspective, despite recent factor changes
- Provides equity-like returns with significantly less risk
- Unlike most fixed income, convertible bonds historically perform well in rising interest rate environments
- Offers diversification from other fixed income holdings

Notes:

1. *Bloomberg as of January 31,2022.*
2. *30% adjusted up or down by the weighted average beta for the publicly traded common stock portfolio is subject to a minimum charge of 22.5% and a maximum charge of 45%.*
3. *Convertibles Outperform in Rising Rate Environments.*

Analysis Period Abbreviated Date Range	Analysis Period Extended Date Range
12/89 - 4/90	12/21/89 - 4/30/90
10/93 - 11/94	10/8/93 - 11/18/94
12/95 - 6/96	12/31/95 - 6/13/96
10/98 - 1/00	10/8/98 - 1/21/00
10/01 - 4/02	10/31/01 - 4/1/02
6/03 - 6/06	6/3/03 - 6/28/06

Analysis Period Abbreviated Date Range	Analysis Period Extended Date Range
12/08 - 6/09	12/30/08 - 6/10/09
10/10 - 2/11	10/6/10 - 2/16/11
7/12 - 4/14	7/24/12 - 4/29/14
7/16 - 2/17	7/8/16 - 2/14/17
9/17 - 4/18	9/7/17-4/25/18
4/20 - 3/21	4/1/20 - 3/31/21