

THE BOND BUYER

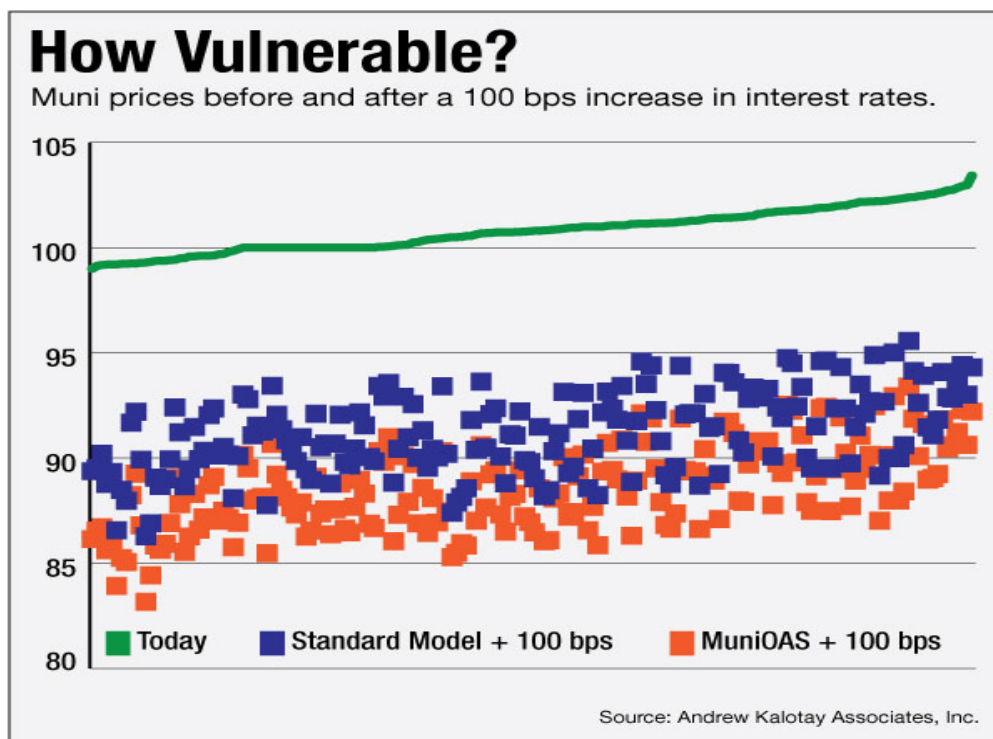
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Muni Buyers: Beware of Tax-Deficient Analytics!

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Discount municipal bonds are much more sensitive to interest rates than reported by standard analytics systems. Investors who rely on these analytics will be in for an unpleasant surprise when rates rise.

During recent years of historically low interest rates, with most municipal bonds trading at a premium, investors have paid little attention to the adverse effect of taxes on the prices of discount bonds. As a result, investors have neither seriously challenged, nor required Currently Used Platforms (CUPs) to provide correct interest rate risk measures for bonds trading near or below par. The reality is that CUPs grossly underestimate the effect of rising rates.



Although interest is tax-exempt, the gain resulting from purchasing a muni at a deep discount - below the so-called de minimis threshold - is subject to severe tax treatment. It is taxed as ordinary income at maturity at a rate of about 40% for the typical investor. Thus, purchasing a bond at 80 would trigger an 8-point tax liability and cost the investor 3.2% of par at maturity.

We analyzed a portfolio of 185 munis which currently trade near par. After shocking interest rates up by 100 basis points, predictably the prices fall below par. However, as calculated by CUPs, the prices don't

fall far enough. They are hugely overestimated, by over 3 points in many cases. The source of the problem is that CUPs disregard the tax payable on the discount at maturity, which depresses the prices further, as correctly calculated by MuniOAS™, or option adjusted spread on municipals.

A Closer Look at Selected Munis

What Happens to Muni Prices When Rates Rise 100 bps

Cusip	Issuer	Maturity	Coupon	Call Date	Today			Standard Model + 100 bps			MuniOAS + 100 bps			Price Overestimate by Standard Model		
					Price	YTM	After Tax YTM	Price	YTM	After Tax YTM	Price	YTM	After Tax YTM		After Tax YTM Increase	
8797092M4	TEMPE AZ	7/1/2027	3.000	7/1/2025	99.20	3.080	3.069	89.33	4.127	3.828	75.9	86.10	4.499	4.108	104.0	3.23
871463SU0	SYLVANIA OH CITY SCH DIST	12/1/2033	4.000	6/1/2025	102.07	3.843	3.843	89.74	4.845	4.693	85.1	87.71	5.027	4.846	100.3	2.04
479340ST9	JOHNSTON CNTY NC	2/1/2027	3.000	2/1/2025	102.97	2.702	2.702	93.01	3.742	3.539	83.7	90.62	4.011	3.738	103.6	2.39
35880CNB6	FRISCO TX INDEP SCH DIST	8/15/2028	3.000	2/15/2024	102.60	2.764	2.764	91.83	3.790	3.585	82.1	89.24	4.058	3.787	102.3	2.59
805610AL6	SAXONBURG PA AREA AUTH	3/1/2025	3.000	9/1/2023	101.35	2.841	2.841	93.05	3.858	3.609	76.8	90.42	4.203	3.858	101.7	2.63
556870JL8	MADISON CNTY IL CMNTY	12/1/2024	3.500	12/1/2022	101.04	3.372	3.372	93.16	4.384	4.138	76.6	90.72	4.719	4.383	101.1	2.45
146636FV2	CARTHAGE MO COPS	11/15/2025	3.100	11/15/2020	100.75	3.016	3.016	92.21	4.017	3.760	74.4	89.41	4.368	4.018	100.2	2.80
277235PX9	ESTRN YORK PA SCH DIST	9/1/2022	2.000	9/1/2020	100.04	1.993	1.993	93.43	3.010	2.668	67.5	90.32	3.516	3.009	101.5	3.11
473235EG0	JEFFERSON MO REORG SCH	3/1/2030	3.100	3/1/2020	99.50	3.142	3.137	88.65	4.132	3.885	74.8	85.54	4.444	4.128	99.1	3.12
446457VQ3	HUNTINGTON NY	12/1/2023	2.125		99.25	2.222	2.206	91.68	3.248	2.885	67.9	88.23	3.748	3.230	102.4	3.45
688426VD4	OSSEO MN	2/1/2023	2.000		100.44	1.938	1.938	93.41	2.963	2.640	70.2	90.33	3.438	2.961	102.3	3.08
286678AM9	ELIZABETH NJ	4/1/2025	3.000		102.46	2.714	2.714	93.91	3.743	3.527	81.2	91.61	4.038	3.740	102.5	2.30

Let's review the results for Bond #1 (Tempe, AZ) shown in the table. The current price of this bond is 99.20. The corresponding pre-tax and after-tax YTM's are 3.080% and 3.069% respectively. The after-tax YTM is lower due to the tax at maturity on the 0.80 point gain. According to the CUPs, a 100 bps increase of the yield curve would reduce the price to 89.33 (pretax YTM 4.127%). However, the corresponding after-tax YTM would be 3.828%, which is only 76 bps higher than the original YTM - recall that the rates were assumed to have increased by 100 bps.

In contrast, according to MuniOAS the price would decline to 86.10 (pretax YTM 4.499%, after-tax YTM 4.108%). Thus according to MuniOAS the after-tax yield would increase by 104 bps, roughly as expected. As indicated in the table, the difference between the CUPs price and the MuniOAS price is 99.33-86.10=3.23 points. In other words, CUPs are reporting materially misleading results when calculating the effect of rising rates on discount munis.

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