

Quality, and the maturity distribution of quality, were not the only notable changes to the index. Sector composition was also considerably altered. The largest shift was in the concentration of Revenue bonds in the index. In the beginning of the examination period, only 14.21% of the index was composed of Revenue bonds. Presently, 54.75% of the index is comprised of Revenue bonds, up 385%. Historically, Revenue bonds have a greater level of volatility than General Obligation and Refunded type bonds. This increase in turn affected the volatility of the index.

Other notable sector occurrences are the complete removal of Insured bonds from the index. Following the collapse of many mono-line insurers in 2008-2009, Insured bonds were no longer considered a separate sector. The index changed the default sector for those issues back to the underlying funding source of General Obligation or Revenue. The Refunded component of the index also decreased dramatically. These changes were a large contributor to the AAA-rated issue weight decrease and resulted in credit spreads of these issues conforming to the actual underlying credit ratings, not the AAA-rating they bolstered before the mono-line insurer collapse.

Because of the deviations mentioned, the performance outcome of the index was affected. Examine the maturity distribution and quality distribution at both the beginning and end of the examination period in the left table presented below.

Merrill Lynch 1-10 Year Municipal Index Sector Distribution (%)

SECTOR	12/31/2007	10/31/2014	Difference
General Obligation	17.54	34.86	17.32
Local	4.13	10.60	6.46
State	13.41	24.27	10.86
Insured	27.62		-27.62
Refunded	40.63	10.39	-30.24
Revenue	14.21	54.75	40.54
Airport	0.07	2.45	2.38
Education	1.35	3.08	1.73
Health	0.45	1.29	0.83
Hospitals	0.07	0.82	0.75
Ind Develop Rev	0.25	0.65	0.41
Lease/Rent	1.75	7.07	5.32
Misc	0.68	1.57	0.89
Multi Family Housing	0.16	0.42	0.27
Pollution Control	0.55	1.07	0.51
Power	1.46	5.64	4.18
Single Family Housing	0.24	0.13	-0.11
Tax	2.09	10.68	8.59
Tobacco	0.60	1.12	0.52
Toll & Turnpike	0.42	3.33	2.91
Transportation	1.63	7.45	5.82
Utilities - other	2.16	5.09	2.93
Water/Sewer	0.28	2.88	2.60

Merrill Lynch 1-10 Year Municipal Index Maturity Distribution by Date and Quality (%)

Maturity (Years)	12/31/2007	10/31/2014	Difference	12/31/2007 vs. 10/31/14			
				AAA	AA	A	BBB
0.00-0.99	0.00	0.00					
1.00-1.99	13.18	14.32	1.14	-5.30	4.22	2.33	-0.11
2.00-2.99	14.01	13.09	-0.92	-5.78	2.93	1.99	-0.06
3.00-3.99	12.78	12.72	-0.06	-5.81	4.21	1.58	-0.03
4.00-4.99	14.37	12.38	-1.99	-5.69	1.95	1.92	-0.17
5.00-5.99	13.49	10.77	-2.72	-7.47	2.96	1.95	-0.14
6.00-6.99	9.15	10.64	1.50	-3.85	2.96	2.33	0.05
7.00-7.99	9.30	9.49	0.20	-4.58	2.86	1.92	0.00
8.00-8.99	6.98	8.56	1.58	-2.78	2.37	1.83	0.16
9.00-9.99	6.74	8.01	1.28	-3.01	2.04	2.20	0.04

Merrill Lynch Municipal Index Performance By Quality (%)

Year	12/31/2007 to 10/31/14			
	AAA	AA	A	BBB
2008	2.64	2.92	-3.27	-13.02
2009	8.23	9.31	11.66	18.55
2010	1.65	1.84	1.48	5.93
2011	8.60	9.66	14.20	11.64
2012	4.17	5.30	7.46	1.53
2013	-1.25	-1.60	-1.87	-24.72
2014 YTD	5.29	6.72	8.68	22.67
Period Return	32.83	38.93	43.44	14.34
Annualized	4.24	4.93	5.42	1.98
Std. Dev.	3.54	4.11	6.77	17.02

Note the shift across all maturity distributions in Quality from the beginning of the examination period to the end. To emphasize the impact the Maturity, Quality and Sector deviations have had over this period, examine the performance by quality table above at the right. The performance for AA-Rated and A-rated issues bested the performance of AAA-rated issues, but the important point is the performance was bested with a materially higher degree of volatility as measured by the annual standard deviation of returns. In other words, the shift to lesser quality unequivocally impacted the behavior in the volatility of the index. Furthermore, credit cycles come and go, but volatility behavior along the credit spectrum is fairly constant.

Benchmark index composition drift becomes an issue when the availability of index selection that mirrors an investment manager's philosophy, approach and process is limited. In this case, there are no intermediate investment grade municipal benchmarks available that mirror the once high quality intermediate index that previously existed. What we are now left with is a selection of moderately similar benchmarks in maturity distribution with lesser quality weightings and higher degrees of expected volatility.

