

THE

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NEWSLETTER

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Standish Mellon Asset Management Company,
LLC

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Introducing TIC+ Rethinking TIC calculation

Municipalities typically issue a series of bonds of various maturities in a single debt deal. The bonds may share a single coupon (e.g. 5%) or may have maturity-specific coupons. In addition, longer bonds will almost always be subject to optional redemption. In a competitive deal, the municipal treasurer needs a single measure that encapsulates the cost of each bid to rank them for selection. The most widely-used such measure is the so-called True Interest Cost or TIC — the winning bid is the one with the lowest TIC. But TIC has a glaring defect. It's time to replace it.

In mathematical terms TIC is the discount rate that equates the present value of the debt service generated by the issue to the appropriately defined net proceeds. It is a straightforward concept. For example, if the issue consists of a single non-amortizing bond, TIC is essentially the yield to maturity based on the normalized proceeds. Consider a municipality authorized to sell \$100 million tax-exempt debt; ignore transaction costs for simplicity. One possibility is to issue \$87 million 30-year 5% bonds at a price of 115, generating \$100 million in proceeds. The resulting TIC would be 4.124%, the YTM of a 30-year 5% bond priced at 115. A different way to raise the same amount is by selling \$100 million 30-year 4% bonds at par; the corresponding TIC would be 4.000%.

Alternatives to TIC, such as Net Interest Cost (NIC) and average coupon rate, have a common shortcoming: they are not based on calculations that take into account the time value of money.

What's Wrong With TIC?

Unfortunately TIC itself, while capturing the time value of money and the differences in underwriting fees among the bidders, ignores a valuable asset received by the issuer. This is the right to refund at lower rates if the opportunity arises.

Investors recognize the possibility of early redemption (call) — a detriment from their perspective as it involves reinvestment risk. Thus they demand a higher yield for callable bonds. Premium bonds are 'priced to the call date' by convention. The TIC calculation does not recognize this tradeoff and uses the same 'yield-to-maturity' calculation whether the bonds are callable or not.

Of course, in a competitive deal every bond in a series is assumed to have the same optional redemption feature — usually callable at 100 after 10 years. However, all other variables being the same, the higher the coupon the greater is the value of the call option. Clearly, it is easier to economically refund a 5% bond than a 4% one. Because the greater option value of higher coupon bonds is not captured by TIC, lower-coupon deals sold near par usually win. In the example above, the 4% bonds with a 4.000% TIC would win over the 5% with a 4.124% TIC.

Introducing TIC+

Why not incorporate the value of the refunding option in calculating the cost of borrowing? The TIC calculation should be based on the sum of the proceeds and the refunding option value. We'll illustrate this 'TIC+' approach' shortly, but first let's discuss on a high level how the option value is obtained.

The calculation requires the issuer's optionless borrowing curve and interest rate volatility. The borrowing curve can be estimated from the issuer's spreads to a benchmark such as the MMA or the MMD. For volatility, we recommend a reasonable level; say 12% that should be used consistently to calculate option values.

Continuing with the example above, we estimate that the option value of the 5% bonds is 4.89% of par. In dollar terms, the option value of the 5% bonds is \$4.25 million (4.89% of \$87 million), and therefore the TIC of the 5% bonds should be based on received value of \$104.25 million instead of \$100 million. The resulting TIC+ is 3.876%. In comparison, for the 4% bonds the proceeds (including option value of 1.91% of par) would amount to \$101.91 million and the TIC+ would be 3.892%. The 5% bonds win. See Table 1.

¹ Patent Pending

Table 1: TIC+ Picks the True Winner

Issue	Proceeds* (\$ millions)	Value of Call Option	Cash + Option Value Received by Issuer (\$ millions)	TIC	TIC+
\$87 million 5% bonds issued at 115	100	4.25	104.25	4.12%	3.88%
\$100 million 4% bonds issued at par	100	1.91	101.91	4.00%	3.89%

As you see, the missing piece in the calculation of TIC is the option value. While generally well-understood and easily accomplished, the calculation of option value is rendered more complicated if the bonds are also eligible for advance refunding.² Despite the added complexity, it is possible to correctly calculate the full option value of such bonds.

By adding the option value to the proceeds, TIC+ fully captures the tradeoff between higher yield and acquired optionality. The approach, described here for an individual bond, easily extends to a series of bonds. Look for TIC+ on Ipreo's BiDCOMP the next time to you need to pick the winner in a competitive offering.

Guest Author*: Andrew Kalotay

Andrew Kalotay, Ph.D., is president of the debt management advisory and fixed income technology firm, Andrew Kalotay Associates. He is an authority on bond valuation and is a member of the Fixed Income Analysts Society Hall of Fame

* The information, opinions, and recommendations presented by guest authors do not necessarily reflect the views of Ipreo. Statements and opinions expressed in articles, reviews and other materials herein are those of the article's authors.

² Advance refunding depends on Treasury yields in addition to the issuer's borrowing rates. When Treasury yields are low, negative arbitrage reduces the advance refunding option's value.

Municipal Bond League Tables

Top Lead Managers

Rank	Lead Manager Parents	Market Share	Par Amount (US\$ mil)	# of Issues	# of Bids	# of Issuers
1	BA Merrill Lynch	13.42	22,619.35	173	514	138
2	JPMorgan	11.17	18,837.35	133	483	117
3	Citigroup	10.89	18,368.46	179	457	150
4	Morgan Stanley	8.58	14,464.98	105	182	93
5	Goldman Sachs	6.68	11,261.47	44	45	36
6	Barclays Capital	5.90	9,954.43	49	78	43
7	Wells Fargo Secs	5.74	9,681.00	113	236	98
8	RBC Capital Mkts	3.93	6,626.96	309	74	291
9	Raymond James MK	3.02	5,097.92	338	809	316
10	Piper Jaffray	2.72	4,587.95	286	371	263
11	Robert W. Baird	2.46	4,153.99	407	1,145	367
12	Stifel Nicolaus	2.43	4,094.77	230	297	218
13	Jefferies	1.76	2,973.09	41	15	41
14	Roosevelt & Cross	1.16	1,957.34	284	334	256
15	Siebert Brandford	1.07	1,806.66	12	0	11
16	De La Rosa & Co	0.92	1,557.39	39	0	34
17	George K. Baum	0.88	1,477.61	105	32	98
18	UBS Financial Svcs	0.83	1,397.50	52	262	52
19	Samuel A. Ramirez	0.82	1,385.65	3	0	3
20	Janney Montgomery	0.80	1,345.37	118	402	113
Top 20 Total		85.62	144,351.66	3,020	5,736	2,470
Total All		100.00	168,603.27	5,911	10,504	4,840

Top Financial Advisors

Rank	Type	Financial Advisor Parents	Market Share	Par Amount (US\$ mil)	# of Issues	# of Bids	# of Issuers
1	F	Public Fin Mgmt	21.29	26,431.42	400	1,186	302
2	F	Public Resources	10.73	13,321.72	64	290	41
3	FBD	FirstSouthwest	9.96	12,364.64	313	629	263
4	FBD	Govt Dev Bank	6.02	7,469.56	8	0	6
5	F	Acacia Fin Group	4.01	4,980.85	39	58	30
6	F	A.C. Advisory	3.66	4,548.44	8	18	4
7	FBD	Seattle-Northwest	3.63	4,507.40	32	149	18
8	F	Lamont Financial	3.27	4,056.63	20	79	10
9	F	Montague DeRose	3.17	3,932.39	18	67	9
10	FBD	Robert W. Baird	2.70	3,347.88	75	299	56
11	FBD	RBC Capital Mkts	2.34	2,899.13	81	131	69
12	F	Ponder	2.27	2,823.73	25	0	16
13	FBD	Estrada Hinojosa	2.21	2,748.72	32	26	21
14	F	KNN Public Finance	2.18	2,700.71	27	62	24
15	FBD	Raymond James MK	1.86	2,308.90	47	172	32
16	FBD	Kaufman Hall	1.63	2,027.70	21	0	15
17	FBD	Davenport	1.05	1,301.50	31	187	25
18	FBD	Piper Jaffray	1.04	1,293.29	112	462	91
19	FBD	TKG & Associates	1.04	1,287.09	5	13	3
20	F	Division of Bond Fin	0.97	1,209.22	9	73	4
Top 20 Total			73.10	90,739.20	1,329	3,789	993
Total All			100.00	124,124.69	3,743	10,263	3,044

Municipal Bond League Tables

Top Issuers

Rank	Issuers	Market Share	Par Amount (US\$ mil)	# of Issues	# of Bids
1	Dormitory Authority of the State of New York	2.28	3,868.57	16	0
2	State of California	2.18	3,697.55	5	0
3	State of Illinois	2.13	3,597.78	5	17
4	Michigan Finance Authority	2.02	3,425.12	10	0
5	City of New York	1.76	2,982.76	8	29
6	Commonwealth of Puerto Rico	1.61	2,733.46	2	0
7	State of Washington	1.24	2,097.79	6	45
8	Puerto Rico Aqueduct and Sewer Authority	1.24	2,095.70	2	0
9	State of Ohio (OH)	1.00	1,696.81	15	70
10	New York City Transitional Finance Authority (NY)	0.95	1,600.00	2	0
Top 10 Total		16.42	27,795.52	71	161
Total All		100.00	169,305.72	5,911	10,504

Top Bond Counsels

Rank	Bond Counsel Parents	Market Share	Par Amount (US\$ mil)	# of Issues	# of Bids	# of Issuers
1	Orrick, Herrington & Sutcliffe	8.83	14,947.00	181	159	140
2	Hawkins, Delafield & Wood	6.11	10,344.24	137	209	101
3	Sidley Austin LLP	5.21	8,815.87	36	108	16
4	Squire, Sanders & Dempsey (US) LLP	4.80	8,126.89	93	123	79
5	Nixon Peabody LLP	3.45	5,835.60	28	86	16
6	Fulbright & Jaworski	3.18	5,377.39	156	206	132
7	Greenberg Traurig, LLP	3.15	5,335.63	45	15	38
8	McCall Parkhurst & Horton	2.86	4,835.32	154	132	127
9	Kutak Rock	2.80	4,735.24	124	121	99
10	Edwards Wildman Palmer LLP	2.77	4,692.38	135	619	110
11	Miller, Canfield, Paddock & Stone, P.L.C.	2.41	4,080.81	76	104	62
12	Mayer Brown LLP	2.13	3,597.78	5	17	1
13	Foster Pepper PLLC	2.07	3,497.82	50	80	40
14	Dickinson Wright PLLC	1.94	3,284.62	24	45	19
15	Chapman and Cutler	1.83	3,103.90	213	326	187
16	Stradling, Yocca, Carlson & Rauth	1.81	3,063.73	68	24	60
17	Peck, Shaffer & Williams	1.52	2,576.95	112	136	95
18	McGuireWoods LLP	1.42	2,395.89	25	83	18
19	Quarles & Brady	1.41	2,384.98	237	665	187
20	Gilmore & Bell	1.32	2,241.53	228	224	200
Top 20 Total		57.78	97,803.34	2,116	3,482	1,698
Total All		100.00	169,273.33	5,883	10,413	4,813

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Muni Happenings

Where we highlight events and conferences of interest to the muni community



Brandeis International Business School
Rosenberg Institute of Global Finance

2012 Municipal Finance Conference

A conference for both academics and practitioners on recent developments in municipal credit markets and the practice of public finance

Friday, August 3, 2012 • 8:00 AM - 5:00 PM • Brandeis University

Register (free of charge) at: www.brandeis.edu/global/municonference

Conference Co-Chairs

- Daniel Bergstresser, Brandeis International Business School
- Richard Ryffel, Edward Jones

Morning Keynote

James Lebenthal, Lebenthal & Co.

Program will include sessions on the liquidity and trading in municipal bond markets, the financial crisis, credit ratings, financial innovation, the municipal bond issuance process, and politics and the municipal bond market.

Have a comment or suggestion? The MuniIC team welcomes your feedback on all of the articles and topics presented in this newsletter.

Please send all comments to: MuniIC@ipreo.com

(Note: Comments may be published or excerpted in future issues unless otherwise requested by the submitter.)

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Featured Investor Snapshot *Every issue we profile a different investor that may be of interest to municipal issuer



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Boston

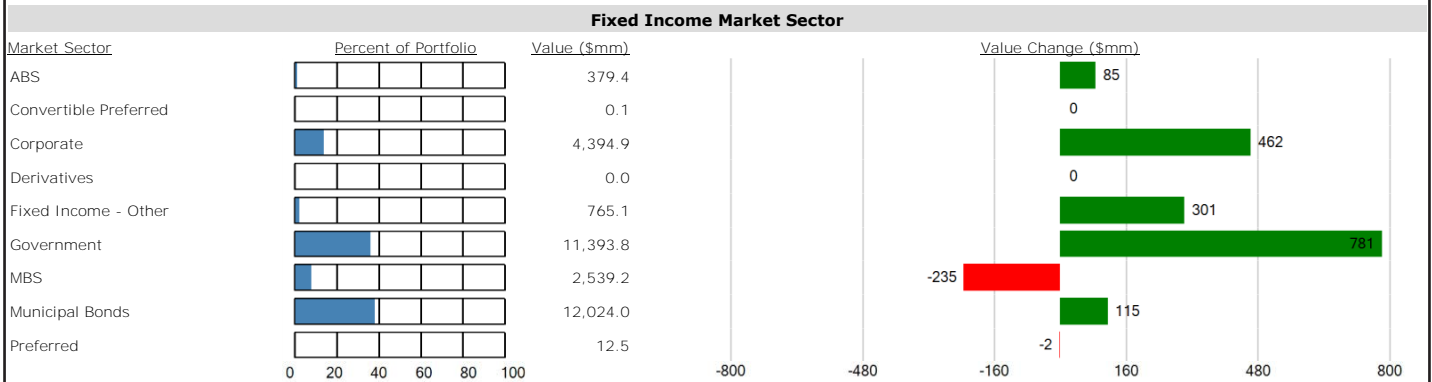
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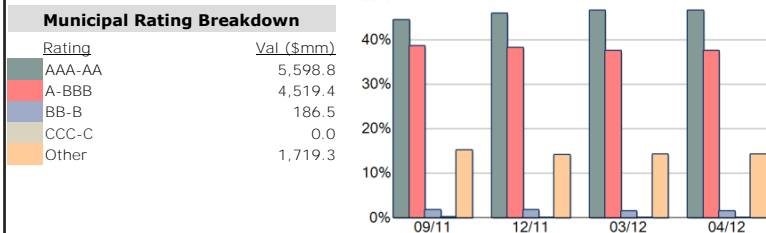
Portfolio Stats	
Fixed Income Assets (\$mm)	31,509.0
Total Reported Assets (\$mm)	33,178.6
Institution Type	Investment Advisor-Mutual Fund
# of FI Securities	7,909

Standish Mellon Asset Management Company, LLC (SMAM) invests in structured debt, primarily in the U.S., but also in Austria and Canada, global corporate bonds, and global government bonds of all maturities. The firm uses proprietary research methods to seek securities from stable or improving issuers with predictable cash flow. SMAM then uses quantitative analysis to analyze the risk of their portfolios. U.S. portfolios have durations within 15% of their corresponding benchmark. The firm benchmarks against the Lehman Aggregate Bond Index, the Lehman Govt/Credit Index, and the Merrill Lynch Govt/Credit 1 - 5 Year Index.

Belton is head of municipal bond research at Standish Mellon Asset Management Company, LLC. He also works for BNY Asset Management and The Dreyfus Corporation. Belton was previously with Federated Investors. Prior to that, he was with Stein Roe and Farnham. Before that, Belton was with Van Kampen Merritt. He is a graduate of the University of Chicago, Bryn Mawr College, and Haverford College.

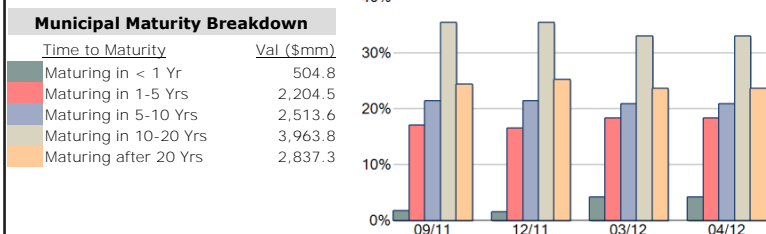


Allocation in Municipal Debt



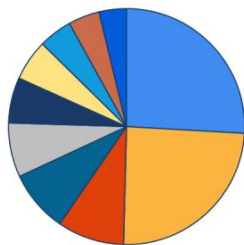
Municipal Use of Proceeds Breakdown

Use of Proceed	Val (\$mm)	Chg (\$mm)	% Port
General Purpose/Public Improvements	2,892.9	-75.0	24.06
Education	1,406.9	-51.2	11.70
Transportation	1,405.4	-29.4	11.69
Health Care	962.0	-11.7	8.00
Utilities	845.3	-17.7	7.03
Water & Sewer	687.8	8.1	5.72
Housing	218.4	-2.7	1.82
Pollution Control	137.8	-2.7	1.15
Economic Development	112.5	-4.0	0.94
Recreation	106.3	-1.1	0.88
Public Safety	82.8	0.0	0.69
Industrial Development	31.7	-2.1	0.26
Sanitation	8.2	0.0	0.07



Top 10 Municipals By Issuer State

State:	Val (\$mm)
New York	2,066.6
California	1,954.2
New Jersey	732.4
Texas	677.4
Florida	591.8
Massachusetts	499.5
Pennsylvania	447.9
Illinois	366.4
Michigan	342.7
Connecticut	299.4



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