

Public Employees' Retirement Board
May 8, 2014

Topic: Bond Index for GASB 67 Discount Rate

Recommended Board Motion:

To accept the bond index proposed by Cheiron and evaluated by the Board of Investments.

Details from GASB 67, LAD, the possible bond indexes, and excerpts of conversations are included below. Cheiron's letter and additional information from BOI is supplied in the board materials.

The bond index is used in the calculation of a discount rate for plans when the plan assumed rate of return does not supply the necessary present value of assets to cover projected future cash flows. At which point it is necessary to calculate a discounted rate of return using a blending of the actuarial assumed rate and the selected bond index.

Board Motion

Accept Cheiron's recommendation to use the Bond Buyer GO 20-Year Bond Municipal Bond Index for the GASB 67 Discount Rate calculation.

Other:

Moved by

Seconded by

Vote

(GASB Statement 67) Discount rate

40. The discount rate should be the single rate that reflects the following:

- a. The long-term expected rate of return on pension plan investments that are expected to be used to finance the payment of benefits, to the extent that (1) the pension plan's fiduciary net position is projected (in conformity with paragraphs 41–43) to be sufficient to make projected benefit payments (determined in conformity with paragraph 39) and (2) pension plan assets are expected to be invested using a strategy to achieve that return
- b. A yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another rating scale), to the extent that the conditions in (a) are not met.

(Information from LAD)

Based on review of the information, during our audit we will accept the use of this index if it meets all the criteria stated in GASB 67 paragraph 40(b) which are:

- A year or index rate for 20 years
- Tax exempt
- General Obligation Municipal bond
- Average rating of AA/Aa or higher

Above are the requirements of a bond index from GASB statement 67 and correspondence from LAD. Cheiron supplied 3 possible bond index rates to MPERA and MPERA submitted them all to the Board of Investments (BOI) for evaluation. The three possibilities were:

1. The Bond Buyer GO 20-Year Bond Municipal Bond Index
2. Bloomberg
3. S&P

(information returned from Clifford Sheets with BOI)

1. I'm attaching information that describes the index referenced by Cheiron, the Bond Buyer 20-Year Municipal Index. One of the files is a 3-pager with a description of the index via their website. See the middle of the page for a definition of the index. I believe this meets the LAD's need. I should note the yield at the end of June, 2013 is 4.63%, not the 4.27% mentioned by Cheiron in their letter (their 4.27% appears to be an average for the full month of June). I would think they would use the end of the month yield, not the average. This is an important difference.
2. The other 2 pages of this same file shows the Bloomberg description and the yields as of June, 2013. The other file is a picture of the yield level for this index over the last year via Bloomberg. You can see the sharp rise in yields last May – July reflecting the general rise in bond yields at that time.
3. We [BOI] contacted our S&P rep about this index last week and they could not confirm it met the requirements; I'm guessing because it may have some non-GO bonds in it that otherwise meet the maturity and rating requirements. He said they did not have any sub-index that was a perfect fit. We do not subscribe to the S&P muni indices so we cannot get the underlying constituents to confirm every bond that's in there.

Thus, my [BOI] suggestion to Cheiron would be to use the Bond Buyer index yield for the date closest to month-end June.



October 25, 2013

VIA ELECTRONIC MAIL

Ms. Barbara Quinn, Fiscal Services Bureau Chief
Public Employee Retirement Administration
100 North Park, Suite 200
Helena, Montana 59620

Re: Bond Index for GASB 67 Discount Rate

Dear Barb:

GASB Statement No. 67, paragraph 40, states that the discount rate should be the single rate that reflects the following:

- a. The long-term expected rate of return on pension plan investments that are expected to be used to finance the payment of benefits, to the extent that (1) the pension plan's fiduciary net position is projected (in conformity with paragraphs 41-43) to be sufficient to make projected benefit payments (determined in conformity with paragraph 39) and (2) pension plan assets are expected to be invested using a strategy to achieve that return
- b. A yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another rating scale), to the extent that the condition in (a) are not met.

Similar wording appears in Statement No. 68, paragraph 26.

Our preliminary analysis indicates that condition (a) will not be met wholly for SRS or for GWPORS. Therefore, in order to determine the discount rate for these systems under GASB 67, a municipal bond index will need to be selected.

We have identified the following index as one that may meet the requirements of sub-paragraph (b) above, and which is publically available on a monthly basis for prior months going back all the way to January 1953:

Bond Buyer GO 20-Year Bond Municipal Bond Index

As of June 2013, the index rate was 4.27%.

It was suggested at our meeting on October 11 that this proposed index be reviewed by your auditors to determine if they would accept the use of this index for the determination of the discount rate for GASB 67 and 68 reporting purposes.



Ms. Barbara Quinn
October 25, 2013
Page 2 of 2

If you have any questions or need additional information, please feel free to contact me.

Sincerely,
Cheiron



Stephen T. McElhaney, FCA, FSA
Principal Consulting Actuary

cc: Margaret Tempkin, FSA
Roxanne Minnehan

BBWK20GO 4.38 As of 02/27/14 %

Bond Buyer US Weekly Yields 20 General Obligation Bond

BBWK20GO Index 1) News

Index Description

Bond Buyer US Weekly Yields 20 General Obligation Bond

2) Notes

Weekly yields and indexes released by the Bond Buyer. Updated every Thursday at approximately 6:00pm EST. 20 Bond General Obligation Yield with 20 year maturity, rated AA2 by Moody's Arithmetic Average of 20 bonds' yield to maturity.

Details

Ticker	BBWK20GO Index
Quote Type	Yield
Unit	%
Currency	US DOLLAR
Country	UNITED STATES
BBGID	BBG002SBHBB5
Price Frequency	Weekly on Thursday
Last Update	02/27/14
Update Status	Subject to one-week lag
Start Date	01/05/61 Weekly

History	Close
End Of Week	Thursday

3) Price Chart (GP)



BBWK20G0 4.38 As 07/27/14 %

Bond Buyer IIS Weekly Yields 20 General Obligation Bond

BBWK20G0 Index 95 Save As 96 Actions 97 Edit 98 Chart Line Chart

05/23/2013 - 07/25/2013 Mid Yield 11) Compare Mov. Avgs No Lower Chart USD

1D 3D 1M 6M YTD 1Y 5Y Max Weekly « Security/Study Event

Date	Last Price
07/25/2013	4.77
07/18/2013	4.52
07/11/2013	4.55
07/04/2013	4.39
06/27/2013	4.63
06/20/2013	4.37
06/13/2013	4.16
06/06/2013	3.93
05/30/2013	3.84
05/23/2013	3.70

Average Municipal Bond Yields -- Compiled Weekly

	20-Bond GO Index ¹	11-Bond GO Index ¹	25-Bond Revenue ²	10-Year Treasury ³	30-Year Treasury ³
2014					
MAR 6	4.41	4.12	5.27	2.74	3.69
FEB 27	4.38	4.09	5.22	2.65	3.60
20	4.44	4.15	5.27	2.76	3.73
13	4.46	4.17	5.33	2.74	3.67
6	4.46	4.17	5.32	2.71	3.67
JAN 30	4.48	4.17	5.30	2.70	3.65
23	4.50	4.19	5.28	2.78	3.68
16	4.55	4.25	5.33	2.85	3.78
9	4.68	4.39	5.34	2.96	3.87
2	4.75	4.46	5.39	2.99	3.92
DEC 26	4.73	4.44	5.33	3.00	3.92
19	4.73	4.44	5.40	2.94	3.91
12	4.74	4.45	5.37	2.88	3.90
5	4.70	4.40	5.30	2.88	3.92
NOV 26	4.61	4.32	5.23	2.71	3.80
21	4.60	4.31	5.26	2.79	3.89
14	4.64	4.35	5.23	2.69	3.79
7	4.56	4.27	5.18	2.60	3.72
OCT 31	4.48	4.20	5.14	2.54	3.63
24	4.56	4.25	5.16	2.51	3.61
17	4.68	4.37	5.25	2.59	3.66
10	4.57	4.28	5.23	2.69	3.75
3	4.53	4.24	5.17	2.61	3.71
SEP 26	4.53	4.26	5.17	2.65	3.69
19	4.66	4.39	5.24	2.75	3.80
12	4.93	4.67	5.31	2.91	3.85

(1) General obligation bonds maturing in 20 years are used in compiling these indexes. The 20-bond index has an average rating equivalent to Moody's Aa2 and S&P's AA, while the 11-bond index is equivalent to Aa1 and AA-plus. (No average Fitch rating is provided because Fitch does not rate one of the bonds.) The 11 bonds used in the higher-grade index are marked with an asterisk.

Table as of: 03/06/2014 16:45 PM

Moody's/S&P/Fitch	Moody's/S&P/Fitch	Moody's/S&P/Fitch
Baltimore, Md. Aa2 / AA- / A+	*Memphis, Tenn. Aa2 / AA / AA-	*Pennsylvania Aa2 / AA / AA
California A1 / A / A-	Miami-Dade Co., Fla.. Aa2 / AA- / A+	*Phoenix, Ariz. Aa1 / AAA / NR
Chicago, Ill Aa3 / A+ / AA-	Milwaukee, Wis. Aa2 / AA / AA	Puerto Rico Baa3 / BBB- / BBB-
*Denver, Colo. Aaa / AAA / AA+	*New Jersey Aa3 / AA- / AA-	*Seattle, Wash. Aaa / AAA / AAA
*Florida Aa1 / AAA / AAA	New York City Aa2 / AA / AA-	*South Carolina Aaa / AA+ / AAA
*Georgia Aaa / AAA / AAA	New York State Aa2 / AA / AA	*Washington Aa1 / AA+ / AA+
Houston, Tex. Aa2 / AA / AA	*North Carolina Aaa / AAA / AAA	

(2) Revenue bonds maturing in 30 years are used in compiling this index. It has an average rating equivalent to Moody's A1 and S&P's A-plus. (No average Fitch rating is provided because Fitch does not rate seven of the bonds.) The bonds and their ratings are:

Table as of: 03/06/2014 16:45 PM

	Moody's	S&P	Fitch
Atlanta, Ga., airport (AMT)	A1	A+	A+
California Housing Finance Agency, multi-unit rental (AMT)	Aa2	A+	NR
Connecticut Housing Finance Authority	Aaa	AAA	NR
Dallas-Fort Worth International Airport Board, Tex. (AMT)	A1	A+	A+
Energy Northwest (formerly WPPSS), Wash., power revenue	Aa1	AA-	AA
Illinois Health Facilities Authority (Northwestern Memorial Hospital)	Aa2	AA+	NR
Illinois Housing Development Authority, multifamily	A1	A+	A+
Intermountain Power Agency, Utah	Aa3	A+	AA-
JEA (formerly Jacksonville Electric Authority), Fla. electric revenue	Aa2	AA	AA